

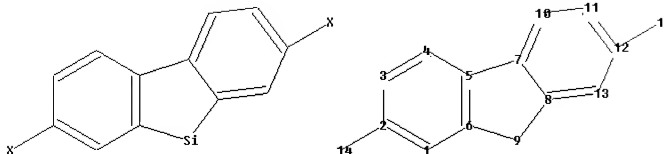
10/578,895 /BAC/

=> file reg

FILE 'REGISTRY' ENTERED AT 14:47:52 ON 06 JUN 2011

=>

Uploading C:\Program Files\Stnexp\Queries\10578895\_bromation\_enablement.str



chain nodes :

14 15

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13

chain bonds :

2-14 12-15

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 10-11 11-12 12-13

exact/norm bonds :

5-7 6-9 8-9

exact bonds :

2-14 12-15

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13

Connectivity :

1:0 E exact RC ring/chain 3:0 E exact RC ring/chain 4:0 E exact RC ring/chain

10:0 E exact RC ring/chain 11:0 E exact RC ring/chain 13:0 E exact RC ring/chain

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom

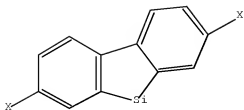
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s ll sss sam

SAMPLE SEARCH INITIATED 14:48:10

SAMPLE SCREEN SEARCH COMPLETED - 267 TO ITERATE

100.0% PROCESSED 267 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 4360 TO 6320

PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

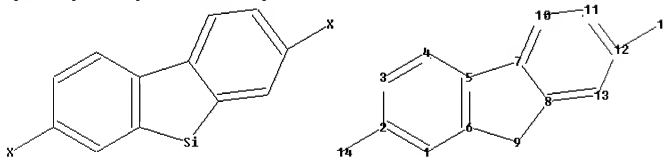
=> log h

SESSION RESUMED IN FILE 'REGISTRY' AT 14:50:18 ON 06 JUN 2011

FILE 'REGISTRY' ENTERED AT 14:50:18 ON 06 JUN 2011

=>

Uploading C:\Program Files\Stnexp\Queries\10578895\_bromination.str



chain nodes :

14 15

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13

chain bonds :

2-14 12-15

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 7-10 8-9 8-13 10-11 11-12 12-13

exact/norm bonds :

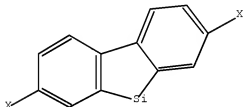
5-7 6-9 8-9

exact bonds :  
2-14 12-15  
normalized bonds :  
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-10 8-13 10-11 11-12 12-13

Match level :  
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS

L3 STRUCTURE UPLOADED

=> d l3  
L3 HAS NO ANSWERS  
L3 STR



Structure attributes must be viewed using STN Express query preparation.

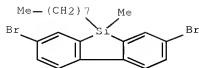
=> s l3 sss sam  
SAMPLE SEARCH INITIATED 14:50:44  
SAMPLE SCREEN SEARCH COMPLETED - 267 TO ITERATE  
100.0% PROCESSED 267 ITERATIONS 7 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 4360 TO 6320  
PROJECTED ANSWERS: 7 TO 298

L4 7 SEA SSS SAM L3

=> d scan

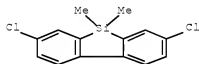
L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
IN 9H-9-Silafluorene, 2,7-dibromo-9-methyl-9-octyl- (9CI)  
MF C21 H26 Br2 Si



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):6

L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN 9H-9-Silafluorene, 2,7-dichloro-9,9-dimethyl-  
 MF C14 H12 Cl2 Si

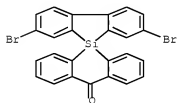


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

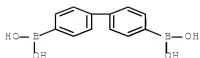
L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN Boronic acid, [1,1'-biphenyl]-4,4'-diylbis-, polymer with  
 2',7'-dibromospiro[9-silaanthracene-9(10H),9'-[9H-9]silafluorene]-10-one  
 (9CI)  
 MF (C25 H14 Br2 O Si . C12 H12 B2 O4)x  
 CI PMS

\*\*RELATED POLYMERS AVAILABLE WITH POLYLINK\*\*

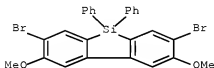
CM 1



CM 2



L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl-  
 MF C26 H20 Br2 O2 Si  
 CI COM

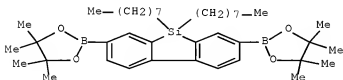


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

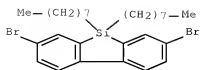
L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
 3,6-dibromo-9,9-dioctyl-9H-9-silafluorene and  
 9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-  
 silafluorene  
 MF (C40 H64 B2 O4 Si . C28 H40 Br2 Si . C28 H40 Br2 Si)x  
 CI PMS

\*\*RELATED POLYMERS AVAILABLE WITH POLYLINK\*\*

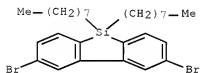
CM 1



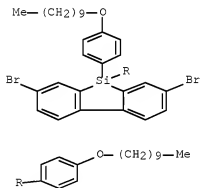
CM 2



CM 3



L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN 9H-9-Silafluorene, 2,7-dibromo-9-bis[4-(decyloxy)phenyl]-  
 MF C44 H56 Br2 O2 Si  
 CI COM



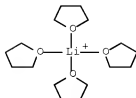
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L4 7 ANSWERS REGISTRY COPYRIGHT 2011 ACS on STN  
 IN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-, methylbis(3,3',4,4',5,5',6,6'-octafluoro[1,1'-biphenyl]-2,2'-diyl)silicate(1-) (9CI)  
 MF C25 H3 F16 Si . C16 H32 Li O4

CM 1

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2



ALL ANSWERS HAVE BEEN SCANNED

=> s l3 sss ful

FULL SEARCH INITIATED 14:51:42

FULL SCREEN SEARCH COMPLETED - 5008 TO ITERATE

100.0% PROCESSED 5008 ITERATIONS

65 ANSWERS

SEARCH TIME: 00.00.01

L5 65 SEA SSS FUL L3

=> file hcaplus

=> s l5/prep

42 L5

5241182 PREP/RL

L6

36 L5/PREP

(L5 (L) PREP/RL)

=> d l6 1-36 ibib ab hitrn hitstr

L6 ANSWER 1 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2011:105534 HCAPLUS Full-text

DOCUMENT NUMBER: 154:195248

TITLE: Novel organic electroluminescent compounds and organic electroluminescent device using the same

INVENTOR(S): Lee, Soo Yong; Kim, Young Gil; Cho, Young Jun; Kwon, Hyuck Joo; Kim, Bong Ok; Kim, Sung Min; Yoon, Seung Soo

PATENT ASSIGNEE(S): Rohm and Haas Electronic Materials Korea Ltd., S. Korea

SOURCE: PCT Int. Appl., 36pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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WO 2011010844 A1 20110127 WO 2010-KR4699 20100719  
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  
RW: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

KR 2011009920 A 20110131 KR 2009-67370 20090723

PRIORITY APPLN. INFO.: KR 2009-67370 A 20090723

AB Provided are six novel organic electroluminescent compds. [X, Y = NR1, C(R2)R3, or Si(R4)R5 where at least one of X and Y = NR1; Z1-8 = CR6 or N; R1-5 = C1-30 alkyl, C3-30 cycloalkyl, 5- to 7-membered heterocycloalkyl, C2-30 alkenyl, C2-30 alkynyl, C6-30 aryl or C3-30 heteroaryl; R, R6 = H, C1-30 alkyl, halo, cyano, C3-30 cycloalkyl, 5- to 7-membered heterocycloalkyl, C2-30 alkenyl, alkynyl, C6-30 aryl, C3-30 heteroaryl, mono or di(C1-30 arylamino), RaRbRcSi, RdY, mono or di(C6-30 arylboranyl), mono or di(C1-30 alkylboranyl), nitro or hydroxy; Ra,b,c,d = C1-30 alkyl or C6-30 aryl; Y = O or S] and an organic electroluminescent device using the same. When used as a host material of an organic electroluminescent material of an OLED device, the organic electroluminescent compound disclosed herein exhibits good luminous efficiency and excellent life property as compared to the existing host material. Therefore, it may be used to manufacture OLEDs having very superior operation life.

IT 1228595-79-6P 1262507-19-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novel organic electroluminescent compds. and organic electroluminescent device using the same)

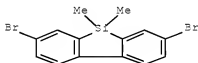
IT 1228595-79-6P 1262507-19-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novel organic electroluminescent compds. and organic electroluminescent device using the same)

RN 1228595-79-6 HCAPLUS

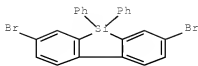
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dimethyl- (CA INDEX NAME)



RN 1262507-19-6 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-diphenyl- (CA INDEX NAME)





REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2011:22380 HCAPLUS Full-text

DOCUMENT NUMBER: 154:133800

TITLE: Synthesis and Photovoltaic Performance of Low-Bandgap Polymers on the Basis of 9,9-Dialkyl-3,6-dialkyloxysilafluorene

AUTHOR(S): Jin, Jae-Kyu; Choi, Jong-Kil; Kim, Bum-Joon; Kang, Hyun-Bum; Yoon, Sung-Cheol; You, Hong; Jung, Hee-Tae

CORPORATE SOURCE: Department of Chemical & Biomolecular Engineering, KAIST, Daejeon, 305-701, S. Korea

SOURCE: Macromolecules (Washington, DC, United States) (2011), 44(3), 502-511

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal; (online computer file)

LANGUAGE: English

AB A new series of polysilafluorene-type low-bandgap polymers containing 3,6-dialkyloxy-9,9-dialkylsilafluorene and 4,7-di-2-thienyl-2,1,3-benzothiadiazole units has been synthesized. UV/vis absorption spectroscopy and grazing incident X-ray diffraction results showed that the alkoxy moiety on the silafluorene unit broadens the absorption band of the polymers because of its electron-donating property, enabling more efficient harvesting of photons from the solar spectrum. Furthermore, the silicon atoms of the polymers lead to a highly ordered structure, which is essential for high charge-carrier mobility. In addition, high mol. weight polymers can be prepared by using long octyloxy/hexyl solubilizing groups. The blend of new poly[2,7-(3,6-dioclyoxy-9,9-dihexylsilafluorene)-alt-5,5-(4',7'-di-2-thienyl-2',1',3'-benzothiadiazole)] (P4H) and [6,6]-phenyl-C71-butyric acid Me ester (PC71BM) exhibited a power-conversion efficiency of 4.05% with an open-circuit voltage of 0.67 V, a short-circuit c.d. of 11.1 mA cm<sup>-2</sup>, and a fill factor of 54.3% under simulated 100 mW cm<sup>-2</sup> air mass 1.5 global (AM1.5G) illumination.

IT 1259986-40-7P 1259986-43-0P 1259986-46-3P

1259986-51-0P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use);

PREP (Preparation); PROC (Process); USES (Uses)

(cyclic voltammetry; synthesis and photovoltaic performance of low-bandgap polymers involving 9,9-dialkyl-3,6-dialkyloxysilafluorene)

IT 1259986-32-7P, 2,7-Dibromo-9,9-diethyl-3,6-bis(octyloxy)silafluorene 1259986-34-9P, 2,7-Dibromo-9,9-dihexyl-3,6-bis(hexyloxy)silafluorene 1259986-36-1P, 2,7-Dibromo-9,9-dihexyl-3,6-bis(octyloxy)silafluorene

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; synthesis and photovoltaic performance of low-bandgap polymers involving 9,9-dialkyl-3,6-dialkyloxysilafluorene)

IT 1259986-40-7P 1259986-43-0P 1259986-46-3P

1259986-51-0P

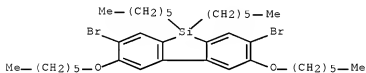
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(cyclic voltammetry; synthesis and photovoltaic performance of low-bandgap polymers involving 9,9-dialkyl-3,6-dialkylloxysilafluorene)

RN 1259986-40-7 HCAPLUS  
CN INDEX NAME NOT YET ASSIGNED

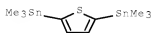
CM 1

CRN 1259986-34-9  
CMF C36 H56 Br2 O2 Si



CM 2

CRN 86134-26-1  
CMF C10 H20 S Sn2



CM 3

CRN 15155-41-6  
CMF C6 H2 Br2 N2 S

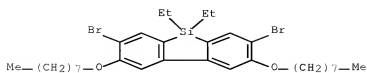


RN 1259986-43-0 HCAPLUS  
CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 1259986-32-7

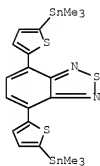
CMF C32 H48 Br2 O2 Si



CM 2

CRN 1025451-57-3

CMF C20 H24 N2 S3 Sn2



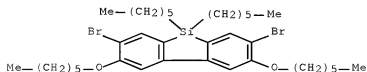
RN 1259986-46-3 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED

CM 1

CRN 1259986-34-9

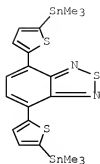
CMF C36 H56 Br2 O2 Si



CM 2

CRN 1025451-57-3

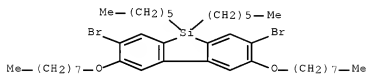
CMF C20 H24 N2 S3 Sn2



RN 1259986-51-0 HCAPLUS  
CN INDEX NAME NOT YET ASSIGNED

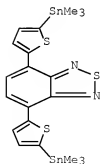
CM 1

CRN 1259986-36-1  
CMF C40 H64 Br2 O2 Si



CM 2

CRN 1025451-57-3  
CMF C20 H24 N2 S3 Sn2



IT 1259986-32-7P, 2,7-Dibromo-9,9-diethyl-3,6-  
bis(octyloxy)silafluorene 1259986-34-9P,

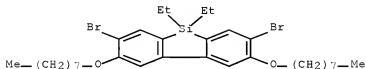
2,7-Dibromo-9,9-dihexyl-3,6-bis(hexyloxy)silafluorene  
1259986-36-1P, 2,7-Dibromo-9,9-dihexyl-3,6-  
bis(octyloxy)silafluorene

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
{Preparation}; RACT (Reactant or reagent)

(monomer; synthesis and photovoltaic performance of low-bandgap  
polymers involving 9,9-dialkyl-3,6-dialkyloxysilafluorene)

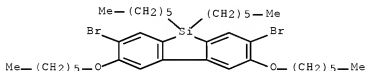
RN 1259986-32-7 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-diethyl-3,6-bis(octyloxy)- (CA INDEX  
NAME)



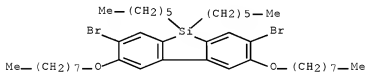
RN 1259986-34-9 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-3,6-bis(hexyloxy)- (CA INDEX  
NAME)



RN 1259986-36-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-3,6-bis(octyloxy)- (CA INDEX  
NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2011:10459 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 154:182982

TITLE: Synthesis and characterization of  
poly(tetramethylsilylarylenesiloxane) derivatives  
bearing diphenylfluorene or diphenyldibenzosilole  
moieties

AUTHOR(S): Imai, Kazutoshi; Kihara, Yoshihiko; Kimoto, Atsushi; Abe, Jiro; Tamai, Yasufumi; Nemoto, Nobukatsu

CORPORATE SOURCE: Department of Chemical Biology and Applied Chemistry, College of Engineering, Nihon University, Tamura-machi, Fukushima, Japan

SOURCE: Polymer Journal (Tokyo, Japan) (2011), 43(1), 58-65  
CODEN: POLJB8; ISSN: 0032-3896

PUBLISHER: NPG Nature Asia-Pacific

DOCUMENT TYPE: Journal

LANGUAGE: English

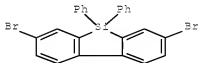
AB Poly(tetramethylsilylenesiloxane) derivs. having diphenylfluorene (P1) or diphenyldibenzosilole (P2) moieties were prepared via polycondensation of the corresponding disilanol monomers, i.e., 2,7-bis(dimethylhydroxysilyl)-9,9-diphenylfluorene (M1) and 2,7-bis(dimethylhydroxysilyl)-9,9-diphenyldibenzosilole (M2), resp. P1 and P2 exhibited good solubility in common organic solvents. The glass transition temps. (Tgs) of P1 and P2 were determined by differential scanning calorimetry to be 125 and 119°, resp. The melting temperature (Tm) of P1 was observed at 276°; however, the Tm of P2 was not observed, indicating that the introduction of a dibenzosilole moiety decreased the crystallization tendency. The temps. at 5% weight loss (Td5s) of P1 and P2 were 539 and 520°, resp., suggesting good thermostability of P1 and P2. Bathochromic and hyperchromic effects were observed in the absorption and fluorescence spectra by introducing a dimethylsilyl substituent onto diphenylfluorene and diphenyldibenzosilole skeletons. The replacement of diphenylfluorene by the corresponding diphenyldibenzosilole also led to bathochromic shifts. The fluorescence quantum yield (ΦF) of P1 was lower than that of M1, probably because of the formation of aggregates; however, the ΦF of P2 was higher than that of M2, indicating a decrease in the tendency toward aggregation using a dibenzosilole skeleton.

IT 1262507-19-6P, 2,7-Dibromo-9,9-diphenyldibenzosilole  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis and characterization of  
poly(tetramethylsilylenesiloxane) derivs. bearing diphenylfluorene or  
diphenyldibenzosilole moieties)

IT 1262507-19-6P, 2,7-Dibromo-9,9-diphenyldibenzosilole  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);  
PREP (Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis and characterization of  
poly(tetramethylsilylenesiloxane) derivs. bearing diphenylfluorene or  
diphenyldibenzosilole moieties)

RN 1262507-19-6 HCAPLUS

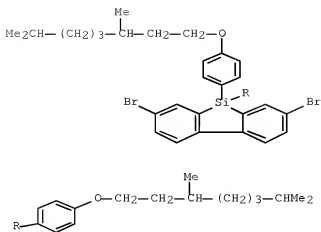
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-diphenyl- (CA INDEX NAME)



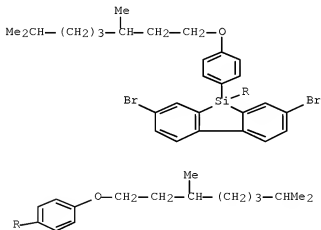
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2010:1569810 HCAPLUS Full-text  
DOCUMENT NUMBER: 154:65260

TITLE: Highly Efficient and Stable Deep Blue Light Emitting Poly(9,9-dialkoxyphenyl- 2,7-silafluorene): Synthesis and Electroluminescent Properties  
 AUTHOR(S): Wang, Jun; Zhang, Chang-qing; Zhong, Cheng-mei; Hu, Su-jun; Chang, Xue-yi; Mo, Yue-qi; Chen, Xiwen; Wu, Hong-bin  
 CORPORATE SOURCE: Key Laboratory of Special Functional Materials, South China University of Technology, Guangzhou, 510640, Peop. Rep. China  
 SOURCE: Macromolecules (Washington, DC, United States) (2011), 44(1), 17-19  
 CODEN: MAMOBX; ISSN: 0024-9297  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; (online computer file)  
 LANGUAGE: English  
 AB The authors report the synthesis of a soluble poly(9,9-dialkoxyphenyl-2,7-silafluorene) (PSF) by the Yamamoto reaction. The thermal, photophys., and EL properties of the obtained polymer were investigated.  
 IT 1258507-81-1P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (cyclic voltammetry; synthesis, characterization, and electroluminescent properties of deep blue light emitting poly(9,9-dialkoxyphenyl- 2,7-silafluorene))  
 IT 1258507-80-0P, 9,9-Di(4-(3',7'-dimethyloctyloxy))-2,7-dibromosilafluorene  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (monomer; synthesis, characterization, and electroluminescent properties of deep blue light emitting poly(9,9-dialkoxyphenyl- 2,7-silafluorene))  
 IT 1258507-81-1P  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (cyclic voltammetry; synthesis, characterization, and electroluminescent properties of deep blue light emitting poly(9,9-dialkoxyphenyl- 2,7-silafluorene))  
 RN 1258507-81-1 HCAPLUS  
 CN INDEX NAME NOT YET ASSIGNED  
 CM 1  
 CRN 1258507-80-0  
 CMF C44 H56 Br2 O2 Si



IT 1258507-80-0P, 9,9-Di(4-(3',7'-dimethyloctyloxy))-2,7-dibromosilafluorene  
 RL: RCT (Reactant); SPN (Synthetic preparation); PPEP (Preparation); RACT (Reactant or reagent)  
 (monomer; synthesis, characterization, and electroluminescent properties of deep blue light emitting poly(9,9-dialkoxyphenyl-2,7-silafluorene))  
 RN 1258507-80-0 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-bis[4-[(3,7-dimethyloctyl)oxy]phenyl]-(CA INDEX NAME)



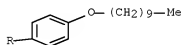
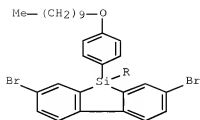
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2010:1453963 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 153:644368  
 TITLE: Soluble poly(9,9-diaryl-2,7-silafluorene), its preparation method and applications



INVENTOR(S): Mo, Yueqi  
 PATENT ASSIGNEE(S): South China University of Technology, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing, 20pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

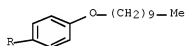
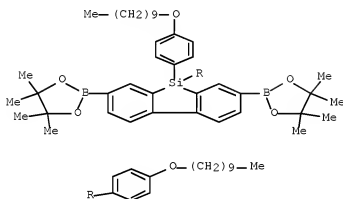
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	CN 101885835	A	20101117	CN 2010-10232922	20100721
PRIORITY APPLN. INFO.:				CN 2010-10232922	20100721
AB	The polymer (I) (Ar1, Ar2 = aryl group bearing long-chain alkyl/alkoxy group; n ≥ 1), having good solubility and thermal stability, is prepared by polymerization of 9,9-diaryl-2,7-dibromosilafluorene using Suzuki or Yamamoto method. The polymer is useful for electroluminescent materials, photovoltaic cells, nonlinear optics, and sensors.				
IT	1256159-58-6P	1256159-63-3P	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation of soluble poly(9,9-diaryl-2,7-silafluorene) with good solubility and thermal stability)		
IT	1256159-57-5P	1256159-61-1P	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (preparation of soluble poly(9,9-diaryl-2,7-silafluorene) with good solubility and thermal stability)		
IT	1256159-58-6P	1256159-63-3P	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation of soluble poly(9,9-diaryl-2,7-silafluorene) with good solubility and thermal stability)		
RN	1256159-58-6	HCAPLUS			
CN	9H-9-Silafluorene, 9,9-bis[4-(decyloxy)phenyl]-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-, polymer with 2,7-dibromo-9,9-bis[4-(decyloxy)phenyl]-9H-9-silafluorene (CA INDEX NAME)				
CM	1				
CRN	1256159-57-5				
CMF	C44 H56 Br2 O2 Si				



CM 2

CRN 1256159-55-3

CMF C56 H80 B2 O6 Si



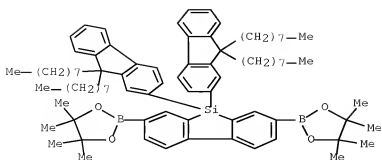
RN 1256159-63-3 HCAPLUS

CN 9H-9-Silafluorene, 9,9-bis(9,9-dioctyl-9H-fluorene-2-yl)-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-, polymer with 2,7-dibromo-9,9-bis(9,9-dioctyl-9H-fluorene-2-yl)-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 1256159-62-2

CMF C82 H112 B2 O4 Si

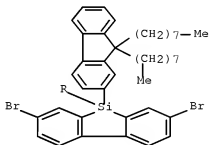


CM 2

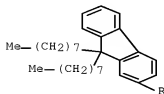
CRN 1256159-61-1

CMF C70 H88 Br2 Si

PAGE 1-A



PAGE 2-A



IT 1256159-57-5P 1256159-61-1P

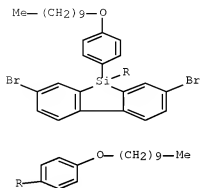
RL: IMF (Industrial manufacture); RCT (Reactant); PREP

{Preparation}; RACT (Reactant or reagent)

(preparation of soluble poly(9,9-diaryl-2,7-silafluorene) with good solubility and thermal stability)

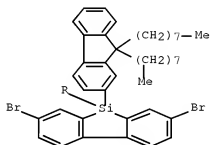
RN 1256159-57-5 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-bis[4-(decyloxy)phenyl]- (CA INDEX NAME)



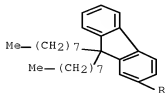
RN 1256159-61-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-bis(9,9-dioctyl-9H-fluorene-2-yl)- (CA INDEX NAME)



PAGE 1-A

PAGE 2-A



ACCESSION NUMBER: 2010:1453949 HCAPLUS Full-text  
 DOCUMENT NUMBER: 153:644072  
 TITLE: 4,5-Ethylene-2,7-carbazole-containing conjugated polymer, its preparation and application  
 INVENTOR(S): Chen, Junwu; Zhang, Chen; Cao, Yong  
 PATENT ASSIGNEE(S): South China University of Technology, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing, 11pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 101885834	A	20101117	CN 2010-10229973	20100716
PRIORITY APPLN. INFO.:			CN 2010-10229973	20100716

AB The title 4,5-ethylene-2,7-carbazole-containing conjugated polymer is presented in Claim 1 (R=C1-C18 alkyl; Ar=alkyl-substituted conjugated group, alkoxy-substituted conjugated group, or alkyl- and alkoxy-substituted conjugated group;  $0 < x \leq 1$ ,  $0 \leq y < 1$ ,  $x+y=1$ ,  $n=3-1000$ ), and is prepared by copolymerization of 4,5-ethylene-2,7-carbazole monomers and Ar monomers. The 4,5-ethylene-2,7-carbazole-containing conjugated polymer can be used for manufacturing luminescent layer material of polymer LEDs, and manufacturing donor phase of polymer bulk heterojunction solar cells, where the donor phase is mixed with electron acceptor C60 or its derivs., organic electron acceptor material or inorg. nanocrystals to give a solution, the solution is coated on ITO glass or buffer layer to gain a film, and the film is vacuum evaporated with metals to manufacture devices. The title 4,5-ethylene-2,7-carbazole-containing conjugated polymer has fluorescence property, is capable of absorbing sunlight, thus, it can be used for manufacturing luminescent layer material of polymer LEDs and donor phase of polymer bulk heterojunction solar cells.

IT 1256095-30-3P  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (4,5-ethylene-2,7-carbazole-containing conjugated polymer, its preparation and application)

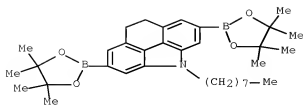
IT 1256095-30-3P  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
 (4,5-ethylene-2,7-carbazole-containing conjugated polymer, its preparation and application)

RN 1256095-30-3 HCAPLUS  
 CN 4H-Benzo[def]carbazole, 8,9-dihydro-4-octyl-2,6-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-, polymer with 2,7-dibromo-9,9-diocetyl-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 1256095-21-2

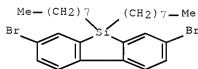
CMF C34 H49 B2 N O4



CM 2

CRN 891182-24-4

CMF C28 H40 Br2 Si



L6 ANSWER 7 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2010:888773 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 153:260500

TITLE: Carbazole-capped heterofluorene host material and preparation and application thereof

INVENTOR(S): Huang, Wei; Zhang, Shenglan; Chen, Runfeng; Yin, Jun; An, Zhongfu; Ma, Cong

PATENT ASSIGNEE(S): Nanjing University of Posts and Telecommunications, Peop. Rep. China

SOURCE: Faming Zhuanli Shengqing, 11pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 101775010	A	20100714	CN 2010-10102060	20100127
PRIORITY APPLN. INFO.:			CN 2010-10102060	20100127

OTHER SOURCE(S): MARPAT 153:260500

AB The invention relates to carbazole-capped heterofluorene host material as shown in formula I and II, wherein X is N, O, S or P; R1, R2 are Ph, C1-C18 alkyl, thienyl, or oxygen substitution group or absent; R3, R4 are Me, alkoxy, tert-Bu, or absent. The preparation method comprises (1) allowing to react 3,3'-disubstituted-4,4'-dibromo-6,6'-diiodobiphenyl with Bu lithium or magnesium to obtain 3,3'-disubstituted-4,4'-dibromo-6,6'-dilithium biphenyl or 3,3'-disubstituted-4,4'-dibromo-6,6'-dimagnesium biphenyl, reacting with proper disubstituted heteroatom to obtain 2,7-dibromoheterofluorene monomer; (2) coupling carbazole with dibromoheterofluorene in nitrobenzene solvent in the presence of anhydrous potassium carbonate and Cu catalyst at 190°C for 1-3

days, column chromatog. and recrystg. to obtain high-purity target product; or removing hydrogen on carbazole with Bu lithium before reacting with dibromoheterofluorene; or performing Buchwald-Hartwig reaction at 120-180°C for 1-3 days in the presence of Pd catalyst, purifying to obtain target product. The title host material can be used in phosphorescent organic light-emitting diode which consists of transparent anode, hole-transmission layer, electron blocking layer, host material and guest material, electron transmission layer, electron infusion layer and cathode.

IT 1236312-32-5P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of carbazole-capped heterofluorene host materials used as light-emitting diode)

IT 1236312-32-5P

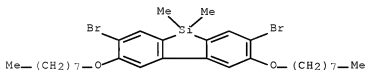
RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(preparation of carbazole-capped heterofluorene host materials used as light-emitting diode)

RN 1236312-32-5 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dimethyl-3,6-bis(octyloxy)- (CA INDEX NAME)



L6 ANSWER 8 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2009:1609469 HCAPLUS Full-text

DOCUMENT NUMBER: 152:287453

TITLE: Synthesis and photophysical properties of highly emissive compounds containing a dibenzosilole core

AUTHOR(S): Li, Liangchun; Xu, Caihong; Li, Shuhong

CORPORATE SOURCE: Beijing National Laboratory for Molecular Sciences (BNLMS), Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100190, Peop. Rep. China

SOURCE: Tetrahedron Letters (2010), 51(4), 622-624

CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 152:287453

AB Four rigid rod-like mols. consisting of a dibenzosilole core, ethynylene linkages, and different aryl end-groups were synthesized in 59% to 83% yield by Pd-catalyzed Sonogashira cross-coupling reactions. E.g., cross-coupling of 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl-9H-9-silafluorene ((C12H4Si)(OMe)2Ph2(C.tplbond.CC6H4CF3-4)2 in 75% yield. These compds. exhibit intense blue to green fluorescence with high quantum efficiencies and good thermal stabilities.

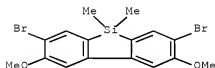
IT 565225-98-1P 976297-14-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

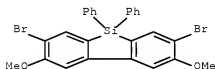
(Preparation); RACT (Reactant or reagent)

(preparation, structure, thermal stability and fluorescence of

bis(arylethynyl)dibenzosiloles via dibromodibenzosiloles and phenylacetylenes)  
 IT 565225-98-1P 876297-14-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, structure, thermal stability and fluorescence of bis(arylethynyl)dibenzosiloles via dibromodibenzosiloles and phenylacetylenes)  
 RN 565225-98-1 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl- (CA INDEX NAME)



RN 876297-14-2 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)  
 REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2009:1263105 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 151:474469  
 TITLE: Electron donating organic material, material for photovoltaic element, and photovoltaic element  
 INVENTOR(S): Kitazawa, Daisuke; Yamamoto, Shuhei; Tsukamoto, Jun  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: PCT Int. Appl., 75pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

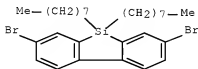
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2009125647	A1	20091015	WO 2009-JP54836	20090313
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,				



CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,  
FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,  
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,  
IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI,  
SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,  
TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
KR 2010130623 A 20101213 KR 2010-7022499 20090313  
EP 2266982 A1 20101229 EP 2009-730367 20090313  
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,  
IE, IS, IT, LI, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE,  
SI, SK, TR, AL, BA, RS  
CN 101998955 A 20110330 CN 2009-80112699 20090313  
US 20110023964 A1 20110203 US 2010-936061 20101001  
PRIORITY APPLN. INFO.: JP 2008-103205 A 20080411  
JP 2008-271688 A 20081022  
WO 2009-JP54836 W 20090313

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Disclosed is an electron donating organic material that can provide a  
photo voltaic element with a high photoelec. conversion efficiency. The  
electron donating organic material comprises a benzothiadiazole compound  
satisfying requirements that (a) a benzothiadiazole skeleton and an  
oligothiophene skeleton are contained, (b) the bandgap (Eg) is  $\leq 1.8$  eV, and  
(c) the level of the HOMO is  $\leq -4.8$  eV. In the benzothiadiazole compound, the  
benzothiadiazole skeleton and the oligothiophene skeleton are alternately  
covalently bonded. The benzothiadiazole skeleton : oligothiophene skeleton  
ratio is in the range of 1 : 1 to 1 : 1 excluding 1 : 1. The number of  
thiophene rings contained in one oligothiophene skeleton is  $\geq 3$  and  $\leq 12$ .  
IT 891182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PFEF  
(Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis of benzothiadiazole compound)  
IT 891182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(intermediate; synthesis of benzothiadiazole compound)  
RN 891182-24-4 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2008:1479525 HCAPLUS Full-text  
DOCUMENT NUMBER: 150:98097

TITLE: 2,7-Substituted Hexafluoroheterofluorenes as Potential Building Blocks for Electron Transporting Materials  
 AUTHOR(S): Geramita, Katharine; McBee, Jennifer; Tilley, T. Don  
 CORPORATE SOURCE: Department of Chemistry, University of California at Berkeley, Berkeley, CA, 94720, USA  
 SOURCE: Journal of Organic Chemistry (2009), 74(2), 820-829  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 150:98097

AB A series of 2,7-substituted hexafluoro-9-heterofluorenes, i.e. I, was synthesized via nucleophilic aromatic substitution (S<sub>N</sub>ArF) reactions of phenyllithium, thienyllithium, and lithium phenylacetylide with various octafluoroheterofluorenes and 2,2'-dibromooctafluorobiphenyl. These compds. are of interest as possible building blocks for materials with useful electron transport properties, since they possess relatively low LUMO energy levels. The HOMO-LUMO energy gaps, as determined by UV-vis spectroscopy, range between 3.0 and 3.9 eV, while photoluminescence emission spectra reveal λ<sub>em</sub> values in the range of 365 to 420 nm (corresponding to UV to violet/blue emission). Dilute solution state quantum yields vary significantly with the nature of the heteroatom and the 2,7-substituents, and approach unity for a number of the di(phenylethynyl) derivs. The exptl. determined LUMO energy levels (-2.7 to -3.3 eV as determined by differential pulse voltammetry) suggest that these compds. may be good candidates for electron transport applications. Single-crystal X-ray analyses of a number of compds. revealed cofacial packing in all cases, with intermol. distances as short as 3.4 Å.

IT 17051-11-5P 1095101-35-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(crystal structure; preparation and electronic properties of hexafluoroheterofluorenes via the nucleophilic aromatic substitution of phenyllithium, thienyllithium, and lithium phenylacetylide with octafluoroheterofluorenes and octafluorobiphenyl)

IT 17051-11-5P 1095101-35-1P

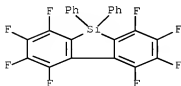
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);

PREP (Preparation); RACT (Reactant or reagent)

(crystal structure; preparation and electronic properties of hexafluoroheterofluorenes via the nucleophilic aromatic substitution of phenyllithium, thienyllithium, and lithium phenylacetylide with octafluoroheterofluorenes and octafluorobiphenyl)

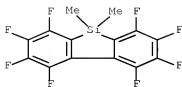
RN 17051-11-5 HCAPLUS

CN 9H-9-Silafluorene, 1,2,3,4,5,6,7,8-octafluoro-9,9-diphenyl- (CA INDEX NAME)



RN 1095101-35-1 HCAPLUS

CN 9H-9-Silafluorene, 1,2,3,4,5,6,7,8-octafluoro-9,9-dimethyl- (CA INDEX NAME)



OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS  
RECORD (12 CITINGS)  
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

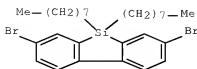
L6 ANSWER 11 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2008:1350583 HCAPLUS Full-text  
DOCUMENT NUMBER: 152:239884  
TITLE: Development of Si-bridged conjugated donor polymers  
for high-efficiency bulk-heterojunction photovoltaic  
devices  
AUTHOR(S): Wang, Ergang; Wang, Li; Lan, Lingfeng; Chen, Junwu;  
Peng, Junbiao; Cao, Yong  
CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials and  
Devices, Key Lab of Specially Functional Materials of  
the Ministry of Education, South China Univ. of  
Technology, Guangzhou, 510640, Peop. Rep. China  
SOURCE: Proceedings of SPIE (2008), 7052(Organic Photovoltaics  
IX), 70520W/1-70520W/10  
CODEN: PSISDG; ISSN: 0277-786X  
PUBLISHER: Society of Photo-Optical Instrumentation Engineers  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 152:239884

AB We report the synthesis and photovoltaic properties of poly[2,7-(9, 9-di-n-octyl-silafluorene)-alt-5,5'-(4', 7'-di-2-thienyl-2',1',3'-benzothiadiazole)] (PSiF-DBT). The polymer heterojunction solar cells fabricated from PSiF-DBT as the electron donor blended with [6,6]-phenyl-C61-butyric acid Me ester (PCBM) as the electron acceptor exhibited a high power conversion efficiency up to 5.4% with an open-circuit voltage of 0.90 V, a short-circuit c.d. of 9.5 mA cm<sup>-2</sup> and a fill factor of 50.7% under the illumination of AM 1.5 G from a solar simulator (800 W m<sup>-2</sup>). A comparative study between PSiF-DBT and its polyfluorene analogous PFDTBT and PFO-DBT demonstrates that the high performance of PSiF-DBT originated from its red-shifted absorption spectrum up to 680 nm and high mobility of 1 + 10<sup>-3</sup> cm<sup>2</sup> V<sup>-1</sup> s<sup>-1</sup> compared with 645 nm and 3 + 10<sup>-4</sup> cm<sup>2</sup> V<sup>-1</sup> s<sup>-1</sup> for corresponding polyfluorene derivs., resp. These results indicate polysilafluorene derivs. are a promising new class of donor materials for polymer solar cells.

IT 891182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
{Preparation}; RACT (Reactant or reagent)  
(development of Si-bridged conjugated donor polymers for  
high-efficiency bulk-heterojunction photovoltaic devices)

IT 891182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
{Preparation}; RACT (Reactant or reagent)  
(development of Si-bridged conjugated donor polymers for

high-efficiency bulk-heterojunction photovoltaic devices)  
 RN 891182-24-4 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2008:1130645 HCAPLUS Full-text

DOCUMENT NUMBER: 151:381430

TITLE: Silicon-bridge effects on photophysical properties of silafluorenes

AUTHOR(S): Shimizu, Masaki; Tatsumi, Hironori; Mochida, Kenji; Oda, Katsunari; Hiyama, Tamejiro

CORPORATE SOURCE: Department of Material Chemistry, Kyoto University  
 Kyoto University Katsura, Nishikyo-ku, Kyoto, 615-8510, Japan

SOURCE: Chemistry--An Asian Journal (2008), 3(8-9), 1238-1247  
 CODEN: CAAJBI; ISSN: 1861-4728

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 151:381430

AB The preparation of 4,5-dimethylsilylene- or 4,5-tetramethyldisilylene-bridged 9-silafluorenes was achieved by lithiation of 2,2',6,6'-tetrabromobiphenyls followed by silylation with dichlorodimethylsilane or 1,2-dichloro-1,1,2,2-tetramethyldisilane, resp. X-ray anal. of the silylene-bridged silafluorene revealed that the mol. framework was perfectly planar and four Si-C(methyl) σ bonds were completely orthogonal to the plane. Both the Si atoms and the benzene rings were significantly deformed from the normal tetrahedral and hexagon shapes, resp. The Si bridge at the 4,5-positions was found to induce a red shift of the absorption and fluorescence spectra measured in cyclohexane, compared with 9-silafluorenes. It is remarkable that the disilylene-bridged silafluorene emitted blue light (λ<sub>em</sub> = 450 nm) with a large Stokes shift. The emission maxima of the Si-bridged silafluorenes in thin films were similar to those measured in cyclohexane solution. DFT calcs. suggested that introduction of the Si bridge led to increases in both the HOMO and LUMO levels compared with 9-silafluorene.

IT 1187984-54-8F 1187984-55-9F 1187984-57-1F

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(silicon-bridge effects on photophys. properties of silafluorenes)

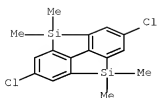
IT 1187984-54-8F 1187984-55-9F 1187984-57-1F

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

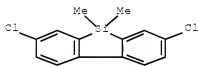
(silicon-bridge effects on photophys. properties of silafluorenes)

RN 1187984-54-8 HCAPLUS

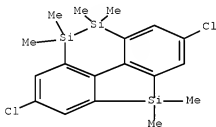
CN [1]Benzosilolo[4,3,2-bcd][1]benzosilole,  
 2,6-dichloro-4,8-dihydro-4,4,8,8-tetramethyl- (CA INDEX NAME)



RN 1187984-55-9 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dichloro-9,9-dimethyl- (CA INDEX NAME)



RN 1187984-57-1 HCAPLUS  
 CN 4H-[1]Benzosilolo[4,3,2-cde][1,2]benzodisilin,  
 2,7-dichloro-5,9-dihydro-4,4,5,5,9,9-hexamethyl- (CA INDEX NAME)



OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS  
 RECORD (20 CITINGS)  
 REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2008:1074109 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 149:412483  
 TITLE: Preparation and application of blue fluorene polymer  
 with stable electroluminescence spectrum  
 INVENTOR(S): Yang, Wei; Liu, Jie; Li, Yuanyuan; Wang, Ergang; Peng,  
 Junbiao; Cao, Yong  
 PATENT ASSIGNEE(S): South China University of Technology, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 25pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	CN 101255336	A	20080903	CN 2007-10031273	20071106
	CN 101255336	B	20110427		

PRIORITY APPLN. INFO.: CN 2007-10031273 20071106

AB The title polymer comprises fluorine units and dibenzothiophene dioxide units. The polymer is prepared by preparing dibenzothiophene dioxide, and performing Suzuki coupling polymerization. The polymer has stable electroluminescence spectrum, and can be used for producing the luminescent layers of light emitting diode and display panel.

IT 1063641-43-9P  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation and application of blue fluorene polymer with stable electroluminescence spectrum)

IT 891182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and application of blue fluorene polymer with stable electroluminescence spectrum)

IT 1063641-43-9P  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation and application of blue fluorene polymer with stable electroluminescence spectrum)

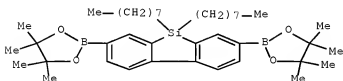
RN 1063641-43-9 HCAPLUS

CN Dibenzothiophene, 2,8-dibromo-, 5,5-dioxide, polymer with 2,7-dibromo-9,9-dioctyl-9H-9-silafluorene and 9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

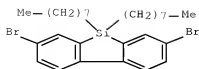
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

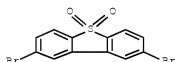
CMF C28 H40 Br2 O4 Si



CM 3

CRN 40307-15-1

CMF C12 H6 Br2 O2 S



IT 891182-24-4P

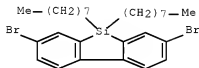
RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(preparation and application of blue fluorene polymer with stable electroluminescence spectrum)

RN 891182-24-4 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



L6 ANSWER 14 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2008:634977 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 149:153606

TITLE: Synthesis, Characterization, and Transistor Response of Semiconducting Silole Polymers with Substantial Hole Mobility and Air Stability. Experiment and Theory  
AUTHOR(S): Lu, Gang; Usta, Hakan; Risko, Chad; Wang, Lian; Facchetti, Antonio; Ratner, Mark A.; Marks, Tobin J.  
CORPORATE SOURCE: Department of Chemistry and the Materials Research Center, Northwestern University, Evanston, IL, 60208, USA

SOURCE: Journal of the American Chemical Society (2008), 130(24), 7670-7685

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English  
OTHER SOURCE(S): CASREACT 149:153606

AB Realizing p-channel semiconducting polymers with good hole mobility, solution processibility, and air stability is an important step forward in the chemical manipulation of charge transport in polymeric solids and in the development of low-cost printed electronics. We report here the synthesis and full characterization of the dithienosilole- and dibenzosilole-based homopolymers, poly(4,4-di-n-hexyldithienosilole) (TS6) and poly(9,9-di-n-octyldibenzosilole) (BS8), and their mono- and bithiophene copolymers, poly(4,4-di-n-hexyldithienosilole-alt-(bi)thiophene) (TS6T1, TS6T2) and poly(9,9-di-n-octyldibenzosilole-alt-(bi)thiophene) (BS8T1, BS8T2), and examine in detail the consequences of introducing dithienosilole and dibenzosilole cores into a thiophene polymer backbone. We demonstrate air-stable thin-film transistors (TFTs) fabricated under ambient conditions having hole mobilities as large as 0.08 cm<sup>2</sup>/V·s, low turn-on voltages, and current on/off ratios > 10<sup>6</sup>. Addnl., unencapsulated TFTs fabricated under ambient conditions are air-stable, an important advance over regioregular poly(3-hexylthiophene) (P3HT)-based devices. D. functional theory calcns. provide detailed insight into the polymer physicochem. and charge transport characteristics. A direct correlation between the hole injection barrier and both TFT turn-on voltage and TFT polymer hole mobility is identified and discussed, in combination with thin-film morphol. characteristics, to explain the observed OTFT performance trends.

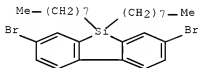
IT 991182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; synthesis and characterization and transistor response of semiconducting silole polymers with hole mobility and air stability)

IT 906372-16-7P 906372-20-1P 1000368-36-6P  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(synthesis and characterization and transistor response of semiconducting silole polymers with hole mobility and air stability)

IT 991182-24-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; synthesis and characterization and transistor response of semiconducting silole polymers with hole mobility and air stability)

RN 991182-24-4 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



IT 906372-18-7P 906372-20-1P 1000368-36-6P  
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(synthesis and characterization and transistor response of semiconducting silole polymers with hole mobility and air stability)

RN 906372-18-7 HCAPLUS

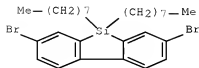
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with 2,2'-(2,5-thiophenediyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (CA INDEX NAME)



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CRN 891182-24-4

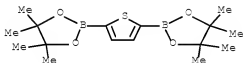
CMF C28 H40 Br2 Si



CM 2

CRN 175361-81-6

CMF C16 H26 B2 O4 S



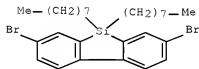
RN 906372-20-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
2,2'-[2,2'-bithiophene]-5,5'-diylbis[4,4,5,5-tetramethyl-1,3,2-  
dioxaborolane] (CA INDEX NAME)

CM 1

CRN 891182-24-4

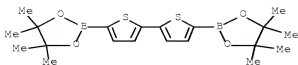
CMF C28 H40 Br2 Si



CM 2

CRN 239075-02-6

CMF C20 H28 B2 O4 S2



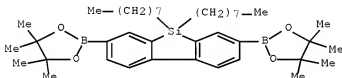
RN 1000368-38-6 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

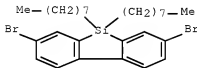
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

CMF C28 H40 Br2 Si



OS.CITING REF COUNT:	66	THERE ARE 66 CAPLUS RECORDS THAT CITE THIS RECORD (67 CITINGS)
REFERENCE COUNT:	118	THERE ARE 118 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L6 ANSWER 15 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2008:374267 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 148:472559

TITLE: Preparation and application of silafluorene-containing conjugated polymer

INVENTOR(S): Cao, Yong; Wang, Ergang; Wang, Li

PATENT ASSIGNEE(S): South China University of Technology, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 13pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	CN 101148495	A	20080326	CN 2007-10028956	20070702
	CN 101148495	B	20100922		

PRIORITY APPLN. INFO.: CN 2007-10028956 20070702

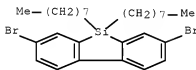
AB The polymer has a structure shown in I, wherein R1, R2 = C1-20 alkyl, alkoxy, alkoxyphenyl, or phenyl; R3, R4 = H, C1-20 alkyl, alkoxy, alkoxyphenyl, or phenyl; Ar is a heterocyclic compound containing sulfur and/or nitrogen; the curve part stands for the connection type between silabifluorene and Ar, which can be single bond, double bond, triple bond, or non-conjugated unit; X:Y = (25-65):(35-75) (mole); and n = 1, 2, 3, etc.

IT 891182-24-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of silabifluorene-containing conjugated polymer)

IT 891182-24-4P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation of silabifluorene-containing conjugated polymer)

RN 891182-24-4 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



L6 ANSWER 16 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2008:233309 HCAPLUS [Full-text](#)  
DOCUMENT NUMBER: 148:403796  
TITLE: High-efficiency red and green light-emitting polymers based on a novel wide bandgap poly(2,7-silafluorene)  
AUTHOR(S): Wang, Ergang; Li, Chun; Zhuang, Wenliu; Peng, Junbiao; Cao, Yong  
CORPORATE SOURCE: Inst. Polymer Optoelectron. Materials and Devices, Key Lab. of Specially Functional Materials, Ministry of Education, South China Univ. Technol., Guangzhou, 510640, Peop. Rep. China  
SOURCE: Journal of Materials Chemistry (2008), 18(7), 797-801  
CODEN: JMACEP; ISSN: 0959-9428  
PUBLISHER: Royal Society of Chemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB A new type of high-efficiency red and green light-emitting polymer was synthesized via the Suzuki coupling reaction by incorporating narrow bandgap (NBG) comonomers 4,7-di(4-hexyl-2-thienyl)-2,1,3-benzothiadiazole (DHTBT) and 2,1,3-benzothiadiazole (BT), resp., into the backbone of poly(2,7-silafluorene) (PSiF). The thermal, photophys., electrochem. and electroluminescent properties of the PSiF copolymers were studied and compared

with those of the corresponding polyfluorene (PF)-based polymers. The advantages of polymers with PSiF as the main chain over PFs were confirmed by comparison of the electroluminescent performances of PSiF-DHTBT10 and PSiF-BT10 with those of the PF-based copolymers with the same NBG content. Preliminary results showed that the device efficiencies of the emitters containing the same NBG units in the PSiF main chain are higher than those based on PFs. The devices with the configuration of ITO/PEDOT: PSS/PVK/polymer/Ba/Al showed the maximum external quantum efficiency (EQE) of 2.89% and current efficiency (CE) of 2.0 cd A<sup>-1</sup> with CIE coordinates of (0.67, 0.33) for PSiF-DHTBT10 and the maximum EQE of 3.81% and CE of 10.6 cd A<sup>-1</sup> with CIE coordinates of (0.38, 0.57) for PSiF-BT10, resp., which are among the best results of fluorescent red or green light-emitting polymers reported so far, indicating PSiF derivs. are a promising class of light-emitting polymers.

IT 1016607-45-6E 1016607-47-8E

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(synthesis of wide bandgap poly(2,7-silafluorene)s suitable for red and green light-emitting devices)

IT 1016607-45-6E 1016607-47-8E

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)  
(synthesis of wide bandgap poly(2,7-silafluorene)s suitable for red and green light-emitting devices)

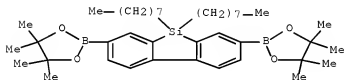
RN 1016607-45-6 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(5-bromo-4-hexyl-2-thienyl)-, polymer with 2,7-dibromo-9,9-dioctyl-9H-9-silafluorene and 9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

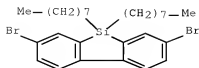
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

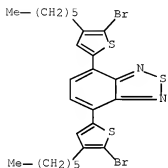
CMF C28 H40 Br2 Si



CM 3

CRN 444579-39-9

CMF C26 H30 Br2 N2 S3



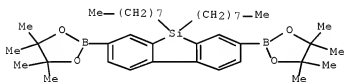
RN 1016607-47-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-dibromo-, polymer with  
2,7-dibromo-9,9-dioctyl-9H-9-silafluorene and  
9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

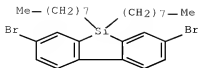
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

CMF C28 H40 Br2 Si



CM 3

CRN 15155-41-6

CMF C6 H2 Br2 N2 S



OS.CITING REF COUNT: 23 THERE ARE 23 CAPLUS RECORDS THAT CITE THIS RECORD (23 CITINGS)  
 REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 17 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2007:1301722 HCAPLUS Full-text  
 DOCUMENT NUMBER: 148:101003  
 TITLE: High-efficiency blue light-emitting polymers based on 3,6-silafluorene and 2,7-silafluorene  
 AUTHOR(S): Wang, Ergang; Li, Chun; Peng, Junbiao; Cao, Yong  
 CORPORATE SOURCE: Institute of Polymer Optoelectronic Materials and Devices, Key Laboratory of Specially Functional Materials of the Ministry of Education, South China University of Technology, Guangzhou, 510640, Peop. Rep. China  
 SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2007), 45(21), 4941-4949  
 CODEN: JPACEC; ISSN: 0887-624X  
 PUBLISHER: John Wiley & Sons, Inc.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

AB A novel blue-emitting polymer based on 3,6-silafluorene and 2,7-silafluorene was synthesized via the Suzuki polycondensation. The resulting polymers are readily soluble in common organic solvents, such as toluene, xylene, THF, and chloroform. The thermal, electrochem., photophys., and electroluminescence properties of the resulting polymers were investigated. The device fabricated from the copolymer with a configuration of ITO/PEDOT:PSS/PVK/polymer/Ba/Al exhibited an external quantum efficiency of 1.95%, a luminous efficiency of 1.69 cd A<sup>-1</sup> and a maximal brightness of 6000 cd m<sup>-2</sup>. The incorporation of the 3,6-silafluorene unit into the poly(2,7-silafluorene) main chain cannot only improve the color purity of the devices from the resulting copolymer but also enhance its device efficiency. Moreover, no undesired long-wavelength green

emission was observed in the PL spectra of P36-27SiF90 compared to that of PFO with a dominating emission at 500-600 nm after thermal annealing at 200° for 8 h.

IT 1000368-39-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(comparison polymer; preparation and characterization of high-efficiency blue light-emitting dioctylsilafuorene polymers)

IT 1000368-37-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(preparation and characterization of high-efficiency blue light-emitting dioctylsilafuorene polymers)

IT 1000368-38-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(comparison polymer; preparation and characterization of high-efficiency blue light-emitting dioctylsilafuorene polymers)

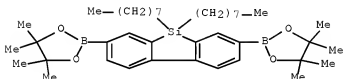
RN 1000368-38-6 HCAPLUS

CN 9H-9-Silafuorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-  
silafuorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

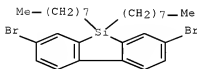
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

CMF C28 H40 Br2 Si



IT 1000368-37-5P

RL: PRP (Properties); SPN (Synthetic preparation); PPEP  
(Preparation)

(preparation and characterization of high-efficiency blue light-emitting dioctylsilafuorene polymers)

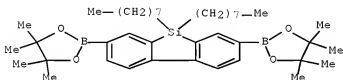
RN 1000368-37-5 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
3,6-dibromo-9,9-dioctyl-9H-9-silafluorene and  
9,9-dioctyl-2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9H-9-  
silafluorene (CA INDEX NAME)

CM 1

CRN 958293-23-7

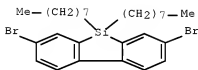
CMF C40 H64 B2 O4 Si



CM 2

CRN 891182-24-4

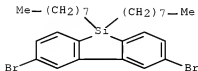
CMF C28 H40 Br2 Si



CM 3

CRN 873792-53-1

CMF C28 H40 Br2 Si



OS.CITING REF COUNT: 17

THERE ARE 17 CAPLUS RECORDS THAT CITE THIS  
RECORD (17 CITINGS)

REFERENCE COUNT: 50

THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

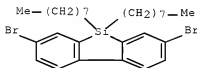


ACCESSION NUMBER: 2007:324622 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 148:343297  
 TITLE: Silole-based polymeric semiconductors for organic thin film transistors  
 AUTHOR(S): Usta, Hakan; Lu, Gang; Facchetti, Antonio; Marks, Tobin J.  
 CORPORATE SOURCE: Department of Chemistry and the Materials Research Center, Northwestern University, Evanston, IL, 60208-3113, USA  
 SOURCE: PMSE Preprints (2007), 96, 337-338  
 CODEN: PPMRA9; ISSN: 1550-6703  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal; (computer optical disk)  
 LANGUAGE: English  
 AB Four new silolearene-thiophene copolymers were synthesized and their properties in organic field-effect transistors (OFETs) were studied. Carrier mobilities  $\leq 0.06$  cm<sup>2</sup>/Vs and current on/off ratios of 10<sup>5</sup>-10<sup>6</sup> for unaligned films were measured in devices functioning in ambient conditions. The silole-based systems can be synthesized in high yields, are environmentally stable, and yield solution-processable films which act as efficient hole transporters in FET devices.  
 IT 906372-18-7P 906372-20-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PPEP (Preparation); USES (Uses)  
 (preparation and properties of silole-based polymeric semiconductors for organic thin film transistors)  
 IT 906372-18-7P 906372-20-1P  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation and properties of silole-based polymeric semiconductors for organic thin film transistors)  
 RN 906372-18-7 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with 2,2'-(2,5-thiophenediyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (CA INDEX NAME)

CM 1

CRN 891182-24-4

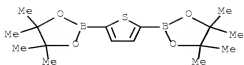
CMF C28 H40 Br2 Si



CM 2

CRN 175361-81-6

CMF C16 H26 Br2 O4 S



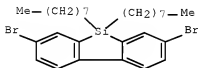
RN 906372-20-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with  
2,2'-[2,2'-bithiophene]-5,5'-diylbis[4,4,5,5-tetramethyl-1,3,2-  
dioxaborolane] (CA INDEX NAME)

CM 1

CRN 891182-24-4

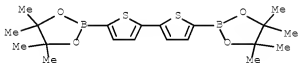
CMF C28 H40 Br2 Si



CM 2

CRN 239075-02-6

CMF C20 H28 Br2 O4 S2



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2006:1216668 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 146:122469

TITLE: Fluorene and silafluorene conjugated copolymer: A new  
blue light-emitting polymer

AUTHOR(S): Chen, Run-Feng; Fan, Qu-Li; Liu, Shu-Juan; Zhu, Rui;  
Pu, Kan-Yi; Huang, Wei

CORPORATE SOURCE: Institute of Advanced Materials (IAM), Fudan  
University, Shanghai, 200433, Peop. Rep. China

SOURCE: Synthetic Metals (2006), 156(18-20), 1161-1167  
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel series of soluble blue light-emitting conjugated random and alternating copolymers derived from 9,9'-dioctylfluorene (FO) and 3,6-dimethoxy-9,9-dimethyl-9-silafluorene (DMSiF) were successfully synthesized by Suzuki coupling polymerization. The feed ratios of FO to DMSiF were 90:10, 80:20, 75:25, and 50:50. Chemical structures and optoelectronic properties of the copolymers were characterized by NMR, UV absorption, photoluminescence, and cyclic voltammetry. The <sup>1</sup>H NMR spectra of the copolymers indicated that DMSiF content in the copolymers was slightly lower than its feed composition. The random copolymers exhibited PFO-segment-dominated UV absorption and PL spectra in THF solution, in comparison with significantly blue-shifted spectra of the alternating copolymer. The blue shift of the spectra became more remarkable in cast film and increased with the increment of DMSiF content. The changes of the UV absorption and PL spectra in solution and film were ascribed to the effect of methoxyl substituents which can hinder the chain rotation and influence the polymer conformation especially in the solid film. The systematic investigations on the solubility, thermostability, electrochem. property, and photophys. property of the copolymers showed that silafluorene was an attractive building unit for optoelectronic materials.

IT 565225-96-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
{Preparation}; RACT (Reactant or reagent)

(monomer; new blue light-emitting polymer of fluorene and silafluorene  
conjugated copolymer)

IT 887110-98-7P 918822-10-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
{Preparation}

(new blue light-emitting polymer of fluorene and silafluorene  
conjugated copolymer)

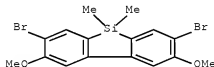
IT 565225-96-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
{Preparation}; RACT (Reactant or reagent)

(monomer; new blue light-emitting polymer of fluorene and silafluorene  
conjugated copolymer)

RN 565225-98-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl- (CA INDEX  
NAME)



IT 887110-98-7P 918822-10-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP  
{Preparation}

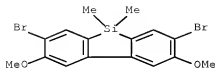
(new blue light-emitting polymer of fluorene and silafluorene  
conjugated copolymer)

RN 887110-98-7 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl-, polymer with  
2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (CA INDEX  
NAME)

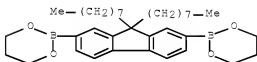
CM 1

CRN 565225-98-1  
 CMF C16 H16 Br2 O2 Si



CM 2

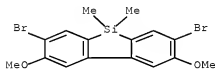
CRN 317802-08-7  
 CMF C35 H52 B2 O4



RN 918822-10-3 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl-, polymer with  
 2,7-dibromo-9,9-dioctyl-9H-fluorene and  
 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (CA INDEX  
 NAME)

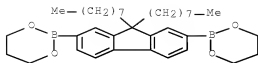
CM 1

CRN 565225-98-1  
 CMF C16 H16 Br2 O2 Si



CM 2

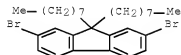
CRN 317802-08-7  
 CMF C35 H52 B2 O4



CM 3

CRN 198964-46-4

CMF C29 H40 Br2



OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS  
RECORD (29 CITINGS)  
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 20 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2006:629538 HCAPLUS Full-text

DOCUMENT NUMBER: 145:260175

TITLE: Dithienosilole- and Dibenzosilole-Thiophene Copolymers  
as Semiconductors for Organic Thin-Film Transistors  
AUTHOR(S): Usta, Hakan; Lu, Gang; Facchetti, Antonio; Marks,  
Tobin J.

CORPORATE SOURCE: Department of Chemistry and the Materials Research  
Center, Northwestern University, Evanston, IL, 60208,  
USA

SOURCE: Journal of the American Chemical Society (2006),  
128(28), 9034-9035

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:260175

AB The synthesis and physicochem. properties of a new class of  
thiophene/arenesilole-containing  $\pi$ -conjugated polymers are reported. Examples  
of this new polymer class include the following: poly(2,5-bis(3',3''-  
dihexylsilylene-2'',2'''-bithieno)thiophene) (TS6T1), poly(2,5'-bis(3'',3'''-  
dihexylsilylene-2'',2'''-bithieno)bithiophene) (TS6T2), poly(2,5'-  
bis(2'',2'''-dioctylsilylene-1'',1'''- biphenyl)thiophene) (BS8T1), and  
poly(2,5'-bis(2'',2'''-dioctylsilylene- 1'',1'''-biphenyl)bithiophene)  
(BS8T2). Organic field-effect transistors (OFETs) with hole mobilities as  
high as 0.02-0.06 cm<sup>2</sup>/V s in air, low turn-on voltages, and current on/off  
ratios >105-106 are fabricated using solution processing techniques with the  
above polymers as the active channel layer. OFETs based on this polymer class  
exhibit excellent ambient operational stability.

IT 906372-18-9P 906372-20-1P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP

{Preparation}; USES (Uses)

(dithienosilole- and dibenzosilole-thiophene copolymers as semiconductors for organic thin-film transistors)

IT 991182-24-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

{Preparation}; RACT (Reactant or reagent)

(dithienosilole- and dibenzosilole-thiophene copolymers as semiconductors for organic thin-film transistors)

IT 906372-18-7P 906372-20-1P

RL: DEV (Device component use); SPN (Synthetic preparation); PREP {Preparation}; USES (Uses)

(dithienosilole- and dibenzosilole-thiophene copolymers as semiconductors for organic thin-film transistors)

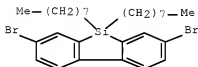
RN 906372-18-7 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with 2,2'-(2,5-thiophenediyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (CA INDEX NAME)

CM 1

CRN 891182-24-4

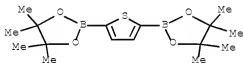
CMF C28 H40 Br2 Si



CM 2

CRN 175361-81-6

CMF C16 H26 B2 O4 S



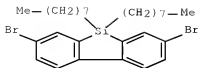
RN 906372-20-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl-, polymer with 2,2'-(2,5-thiophenediyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (CA INDEX NAME)

CM 1

CRN 891182-24-4

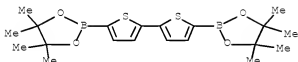
CMF C28 H40 Br2 Si



CM 2

CRN 239075-02-6

CMF C20 H28 B2 O4 S2

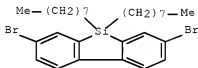


IT 891182-24-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)  
(dithienosilole- and dibenzosilole-thiophene copolymers as  
semiconductors for organic thin-film transistors)

RN 891182-24-4 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)



OS.CITING REF COUNT: 117 THERE ARE 117 CAPLUS RECORDS THAT CITE THIS  
RECORD (121 CITINGS)  
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 21 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2006:498419 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 145:63326

TITLE: 9-Silafluorene compounds for forming polymer used as  
blue-light luminescent material, and preparation  
thereof

INVENTOR(S): Xu, Liangheng; Yao, Hongbing; Gao, Yun

PATENT ASSIGNEE(S): Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 13 pp.  
CODEN: CNXXEV

DOCUMENT TYPE: Patent  
LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1680395	A	20051012	CN 2005-10023644	20050127
PRIORITY APPLN. INFO.:			CN 2005-10023644	20050127

OTHER SOURCE(S): MARPAT 145:63326

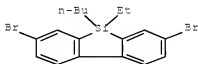
AB The title 9-silafluorene compound I ( R1 and R2 = H, C1-20 alkyl, or silyl) is prepared by the following steps: (1) reacting 2,2'-dibromobiphenyl with n-BuLi at a molar ratio of 1:(2-6) in THF at -70° to -80°C for 1-10 h, (2) reacting with SiCl4 at molar amount of 1-4 times that of 2,2'-dibromobiphenyl at -95°C to -105°C for 2-6 h to obtain 9,9-dichloro-9-silafluorene, (3) reacting with active metal such as Na, K and Li at a molar ratio of 1:(2-6) at room temperature for 1-6 h and coupling with alkyl halide or chlorosilane at 66°C for 6-48 h, or reacting with Grignard reagent to obtain 9-alkyl or 9-silyl substituted 9-silafluorene, and (4) bromizing in chloroform solvent at 0-5°C for 1-3 h to obtain 2,7-dibromo-9,9-disubstituent-9-silafluorene. The compound can be homopolymd. or copolymd. with other monomers to prepare polymer with good film-forming property, high thermostability, high luminescence performance, and good injecting and transporting capability for charge carrier, which can be used in blue-light luminescent material.

IT 891182-22-2P 891182-24-4P 891182-29-9P  
891182-31-3P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of 9-silafluorene compds. as monomers for preparing polymers used as blue-light luminescent materials)

IT 891182-26-6P 891182-27-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of 9-silafluorene compds. as monomers for preparing polymers used as blue-light luminescent materials)

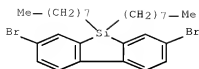
IT 891182-22-2P 891182-24-4P 891182-29-9P  
891182-31-3P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation of 9-silafluorene compds. as monomers for preparing polymers used as blue-light luminescent materials)

RN 891182-22-2 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9-butyl-9-ethyl- (9CI) (CA INDEX NAME)

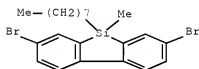


RN 891182-24-4 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctyl- (CA INDEX NAME)

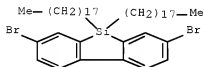




RN 891182-29-9 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9-methyl-9-octyl- (9CI) (CA INDEX NAME)

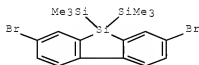


RN 891182-31-3 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dioctadecyl- (CA INDEX NAME)

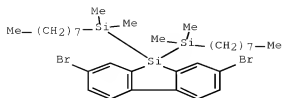


IT 891182-26-6P 891182-27-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of 9-silafluorene compds. as monomers for preparing polymers  
 used as blue-light luminescent materials)

RN 891182-26-6 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-bis(trimethylsilyl)- (9CI) (CA INDEX NAME)



RN 891182-27-7 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-bis(dimethyloctylsilyl)- (9CI) (CA INDEX NAME)



L6 ANSWER 22 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2006:277204 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 144:489118  
 TITLE: Preparation of poly(silicon-fluorene) derivatives  
 INVENTOR(S): Huang, Wei; Fan, Quli; Chen, Runfeng  
 PATENT ASSIGNEE(S): Fudan University, Peop. Rep. China  
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 10 pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1654496	A	20050817	CN 2005-10023143	20050106
CN 100427521	C	20081022		

PRIORITY APPLN. INFO.: CN 2005-10023143 20050106

AB Poly(silicon-fluorene) derivs. are prepared by Suzuki, Heck, Sonogashira and Yamamoto polymerization of silicon-fluorene. The poly(silicon-fluorene) derivs. show excellent luminescent property and can be used in electroluminescence, photovoltaic battery, nonlinear optics etc.

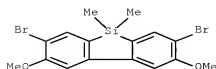
IT 565225-98-1P 876297-14-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of poly(silicon-fluorene) derivs.)

IT 887110-98-7P 887111-00-4P 887111-03-7P  
 887111-05-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of poly(silicon-fluorene) derivs.)

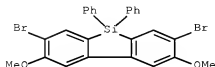
IT 565225-98-1P 876297-14-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of poly(silicon-fluorene) derivs.)

RN 565225-98-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl- (CA INDEX NAME)



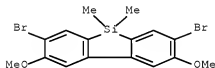
RN 876297-14-2 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl- (CA INDEX NAME)



IT 887110-98-7E 887111-00-4P 887111-03-7P  
 887111-05-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PPEF (Preparation); USES (Uses)  
 (preparation of poly(silicon-fluorene) derivs.)  
 RN 887110-98-7 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl-, polymer with 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (CA INDEX NAME)

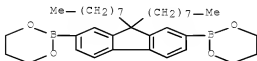
CM 1

CRN 565225-98-1  
 CMF C16 H16 Br2 O2 Si



CM 2

CRN 317802-08-7  
 CMF C35 H52 B2 O4

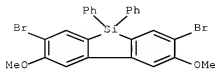


RN 887111-00-4 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl-, polymer with 1,4-diethenyl-2,5-dihexylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 876297-14-2

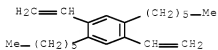
CMF C26 H20 Br2 O2 Si



CM 2

CRN 255726-34-2

CMF C22 H34



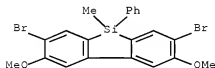
RN 887111-03-7 HCAPLUS

CN 9H-9-Silafluorene, 3,6-dibromo-2,7-dimethoxy-9-methyl-9-phenyl-, polymer with 1,4-diethynyl-2,5-dihexylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 887111-02-6

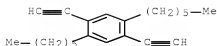
CMF C21 H18 Br2 O2 Si



CM 2

CRN 167319-38-2

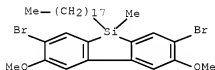
CMF C22 H30



RN 887111-05-9 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9-methyl-9-octadecyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 876297-13-1  
 CMF C33 H50 Br2 O2 Si



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

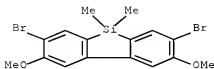
L6 ANSWER 23 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2005:1343047 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 144:233133  
 TITLE: A General Strategy for the Facile Synthesis of 2,7-Dibromo-9-heterofluorenes  
 AUTHOR(S): Chen, Run-Feng; Fan, Qu-Li; Zheng, Chao; Huang, Wei  
 CORPORATE SOURCE: Fudan University, Shanghai, 200433, Peop. Rep. China  
 SOURCE: Organic Letters (2006), 8(2), 203-205  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 144:233133

AB A facile, highly efficient, and economical procedure for the preparation of 6,6'-diiodo-4,4'-dibromo-3,3'-dimethoxybiphenyl has been found. From this compound, a general synthetic strategy for the preparation of 2,7-dibromo-9-heterofluorenes has been developed. Five 2,7-dibromo-9-heterofluorenes have been easily synthesized for the first time according to the procedure presented, opening the door to new classes of inorg. and organometallic conjugated polymeric materials of polyheterofluorenes. Thus, diazotization of o-dianisidine with NaNO<sub>2</sub>/HBr followed by CuBr/HBr bromination gave 100% 4,4'-dibromo-3,3'-dimethoxybiphenyl which on iodination with KI/O<sub>3</sub>/I<sub>2</sub> in AcOH/H<sub>2</sub>SO<sub>4</sub> gave 93% 4,4'-dibromo-6,6'-diiodo-3,3'-dimethoxybiphenyl. Lithiation of later with BuLi in THF at -100° followed by treatment with Me<sub>2</sub>SiCl<sub>2</sub> gave 63% 2,7-dibromo-3,6-dimethoxy-9,9'-dimethyl-9-silafluorene.  
 IT 565225-98-1P 876297-13-1P 876297-14-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (general strategy for facile synthesis of organometallic dibromo heterofluorenes)  
 IT 565225-98-1P 876297-13-1P 876297-14-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(general strategy for facile synthesis of organometallic dibromo  
heterofluorenes)

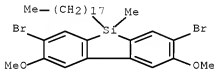
RN 565225-98-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl- (CA INDEX  
NAME)



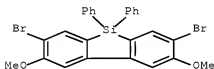
RN 876297-13-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9-methyl-9-octadecyl- (CA  
INDEX NAME)



RN 876297-14-2 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-diphenyl- (CA INDEX  
NAME)



OS.CITING REF COUNT: 25 THERE ARE 25 CAPLUS RECORDS THAT CITE THIS  
RECORD (26 CITINGS)  
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 24 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:1202853 HCAPLUS Full-text

DOCUMENT NUMBER: 145:145846

TITLE: Synthesis of triplet emitters and hosts for  
electrophosphorescence

AUTHOR(S): Chan, Khai Leok; Mak, Chris S. K.; Evans, Nicholas R.;  
Watkins, Scott E.; Pascu, Sofia I.; Holmes, Andrew B.;  
Hayer, Anna; Koehler, Anna; Devi, Lekshmi Sudha;  
Friend, Richard H.

CORPORATE SOURCE: Melville Laboratory for Polymer Synthesis, Department of Chemistry, Univ. of Cambridge, Cambridge, UK

SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2005), 5937(Organic Light-Emitting Materials and Devices IX), 59370B/1-59370B/9  
CODEN: PSISDG; ISSN: 0277-786X

PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 145:145846

AB Iridium cyclometalated phenylpyridine-triazolylpyridine complexes were prepared as additives to dye-doped phosphorescent polymer systems for harnessing both singlet and triplet excitons to improve electroluminescence. Reaction of di- $\mu$ -chlorotetrakis[3,5-difluoro-2-(4- R-5-X-2-pyridinyl- $\kappa$ N)phenyl- $\kappa$ C]diiridium, [Ir<sub>2</sub>( $\mu$ -Cl)<sub>2</sub>(L-C,N)<sub>4</sub>] with 5-(2-pyridinyl)-3-trifluoromethyl-1H-1,2,4- triazole (HL1) gave complexes [Ir(L1-N1,N') (L-C,N)<sub>2</sub>] (8a-b; a X = R = H; b X = Br, R = H; c X = H, R = C<sub>8</sub>H<sub>17</sub>; d X = 3-carbazolyl, R = H). Complexes 8a-d exhibit room-temperature photoluminescence in 450-700 nm region. Electroluminescence from conjugated polymers can be significantly improved by harnessing the energy of their non-emissive triplet states. Poly(2,7-dibenzosilole) was prepared and its triplet energy has been measured as 2.14 eV, a figure that is slightly higher than that of polyfluorene (2.09 eV).

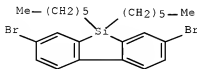
IT 852138-90-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(polycondensation; preparation, structure, photo- and electroluminescence spectra of iridium cyclometalated bis-phenylpyridine triazolylpyridine complexes as electroluminescence-enhancing additives for OLED devices)

IT 852138-98-8DP, phenyl-terminated  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation, structure, photo- and electroluminescence spectra of iridium cyclometalated bis-phenylpyridine triazolylpyridine complexes as electroluminescence-enhancing additives for OLED devices)

IT 852138-90-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(polycondensation; preparation, structure, photo- and electroluminescence spectra of iridium cyclometalated bis-phenylpyridine triazolylpyridine complexes as electroluminescence-enhancing additives for OLED devices)

RN 852138-90-0 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl- (CA INDEX NAME)



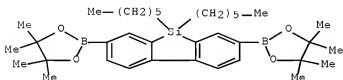
IT 852138-98-8DP, phenyl-terminated  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation, structure, photo- and electroluminescence spectra of iridium cyclometalated bis-phenylpyridine triazolylpyridine complexes as electroluminescence-enhancing additives for OLED devices)

RN 852138-98-8 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-, polymer with  
9,9-dihexyl-2,7-bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl]-9H-9-  
silafluorene (CA INDEX NAME)

CM 1

CRN 852138-91-1

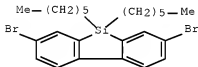
CMF C36 H56 B2 O4 Si



CM 2

CRN 852138-90-0

CMF C24 H32 Br2 Si



OS.CITING REF COUNT: 0 THERE ARE 0 CAPLUS RECORDS THAT CITE THIS RECORD  
(0 CITINGS)  
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 25 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2005:1202852 HCAPLUS [Full-text](#)  
DOCUMENT NUMBER: 145:302681  
TITLE: Enhanced color stability from poly(2,7-dibenzosilole)  
AUTHOR(S): Chan, Khai Leok; McKiernan, Mary J.; Towns, Carl R.;  
Holmes, Andrew B.  
CORPORATE SOURCE: Melville Laboratory for Polymer Synthesis, Department  
of Chemistry, Univ. of Cambridge, Cambridge, CB2 1EW,  
Australia  
SOURCE: Proceedings of SPIE-The International Society for  
Optical Engineering (2005), 5937(Organic  
Light-Emitting Materials and Devices IX),  
59372A/1-59372A/8  
CODEN: PSISDG; ISSN: 0277-786X  
PUBLISHER: SPIE-The International Society for Optical Engineering  
DOCUMENT TYPE: Journal  
LANGUAGE: English



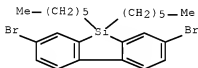
AB For multicolor display applications, polymeric light emitters of the three primary colors of red, green and blue are required. Emitters of high luminescence efficiency and long lifetime stability for red and green have been found, but the search for a suitable blue emitter continues. 2,7-Disubstituted dibenzosilole monomers have been prepared by the selective trans lithiation of 4,4'-dibromo-2,2'-diiodobiphenyl followed by silylation with dichlorodihexylsilane. Suzuki copolymer of dibromo- and bis(boronate) monomers afforded poly(9,9-dihexyl-2,7-dibenzosilole) which showed better color stability and efficiency than the corresponding polyfluorene in a single layer light emitting device. Preliminary studies demonstrated this to be a promising blue light emitting polymer.

IT 852138-90-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; synthesis of dibenzosilole polymer emitters for OLED displays)

IT 852138-90-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer; synthesis of dibenzosilole polymer emitters for OLED displays)

RN 852138-90-0 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl- (CA INDEX NAME)



REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 26 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:451443 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 142:482500

TITLE: Preparation of dibenzosilole polymers for electroluminescent device

INVENTOR(S): Towns, Carl; Mak, Chris; Chan, Khai Leok; Holmes, Andrew Bruce

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK; Cambridge University Technical Service Limited

SOURCE: PCT Int. Appl., 56 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005047363	A1	20050526	WO 2004-GB4754	20041110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,				

NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

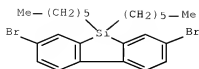
EP 1682600 A1 20060726 EP 2004-798477 20041110  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS  
 CN 1902250 A 20070124 CN 2004-80039151 20041110  
 CN 1902250 B 20100428  
 JP 2007516319 T 20070621 JP 2006-538943 20041110  
 JP 4390113 B2 20091224  
 KR 2007012316 A 20070125 KR 2006-7009696 20060518  
 US 20070248839 A1 20071025 US 2007-578895 20070608  
 HK 1103552 A1 20101224 HK 2007-107830 20070720  
 JP 2010001483 A 20100107 JP 2009-185810 20090810  
 GB 2003-26138 A 20031110  
 GB 2004-13205 A 20040614  
 JP 2006-538943 A3 20041110  
 WO 2004-GB4754 W 20041110

PRIORITY APPLN. INFO.:

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 142:482500

AB Title polymer comprises an optionally substituted repeat unit of formula (I); wherein each R is the same or different and represents H or an electron withdrawing group; and each R1 is the same or different and represents a substituent. Thus, poly(9,9-dihexyl-2,7-fluorenyl-alt-9,9'-dihexyl-2,7-silafluorenyl) (Polymer PS6F6) was prepared by polymerizing 2,7-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene and 2,7-dibromo-9,9'-dihexyl-9H-9-dibenzosilole-dibenzosilole in the presence of palladium(II) acetate and tricyclohexylphosphine under nitrogen atmospheric  
 IT 852138-90-0P, 2,7-Dibromo-9,9'-dihexyl-9H-9-dibenzosilole-dibenzosilole  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (monomer; preparation of dibenzosilol polymers for electroluminescent device)  
 IT 852138-98-8P, 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexyl-9H-9-dibenzosilole-dibenzosilole-2,7-dibromo-9,9'-dihexyl-9H-9-dibenzosilole-dibenzosilole copolymer 852138-00-5P, 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene-2,7-dibromo-9,9'-dihexyl-9H-9-dibenzosilole-dibenzosilole copolymer  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses) (preparation of dibenzosilol polymers for electroluminescent device)  
 IT 852138-90-0P, 2,7-Dibromo-9,9'-dihexyl-9H-9-dibenzosilole-dibenzosilole  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (monomer; preparation of dibenzosilol polymers for electroluminescent device)  
 RN 852138-90-0 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9'-dihexyl- (CA INDEX NAME)

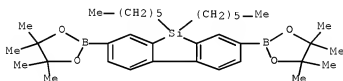


IT 852138-96-8P, 2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolane-2-yl)-9,9-dihexyl-9H-9-dibenzosilole-2,7-dibromo-9,9'-dihexyl-9H-9-dibenzosilole copolymer 852139-00-5P,  
2,7-Bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene-2,7-dibromo-9,9'-dihexyl-9H-9-dibenzosilole copolymer  
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)  
(preparation of dibenzosilol polymers for electroluminescent device)  
RN 852138-98-8 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-, polymer with 9,9-dihexyl-2,7-bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl]-9H-9-silafluorene (CA INDEX NAME)

CM 1

CRN 852138-91-1

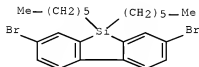
CMF C36 H56 B2 O4 Si



CM 2

CRN 852138-90-0

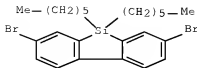
CMF C24 H32 Br2 Si



RN 852139-00-5 HCAPLUS  
CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-, polymer with 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (CA INDEX NAME)

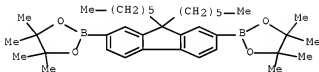
CM 1

CRN 852138-90-0  
CMF C24 H32 Br2 Si



CM 2

CRN 254755-24-3  
CMF C37 H56 Br2 O4



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 27 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2005:383212 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 143:97727

TITLE: Poly(2,7-dibenzosilole): A Blue Light Emitting Polymer

AUTHOR(S): Chan, Khai Leok; McKiernan, Mary J.; Towns, Carl R.; Holmes, Andrew B.

CORPORATE SOURCE: Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 1EW, UK

SOURCE: Journal of the American Chemical Society (2005), 127(21), 7662-7663

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

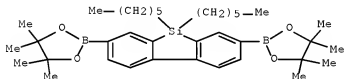
OTHER SOURCE(S): CASREACT 143:97727

AB 2,7-Disubstituted dibenzosilole monomers have been prepared by the selective trans-lithiation of 4,4'-dibromo-2,2'-diiodobiphenyl followed by silylation with dichlorodihexylsilane. Suzuki copolymer of dibromo and bis(boronate) monomers afforded poly(9,9-dihexyl-2,7-dibenzosilole) which showed better efficiency than the corresponding polyfluorene in a single layer light emitting device. Preliminary studies demonstrated this to be a promising blue light emitting polymer.

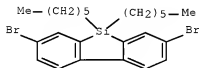
IT #52138-90-8BP, phenyl-terminated 852139-00-5BP, phenyl-terminated

RL: PRP (Properties); SPN (Synthetic preparation); PREP

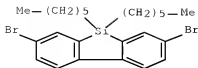
{Preparation}  
 (blue light emitting poly(2,7-dibenzosilole))  
 IT 852138-90-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 {Preparation}; RACT (Reactant or reagent)  
 (monomer; blue light emitting poly(2,7-dibenzosilole))  
 IT 852138-98-8DP, phenyl-terminated 852139-00-5DP,  
 phenyl-terminated  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 {Preparation}  
 (blue light emitting poly(2,7-dibenzosilole))  
 RN 852138-98-8 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-, polymer with  
 9,9-dihexyl-2,7-bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl]-9H-9-  
 silafluorene (CA INDEX NAME)  
 CM 1  
 CRN 852138-91-1  
 CMF C36 H56 B2 O4 Si



CM 2  
 CRN 852138-90-0  
 CMF C24 H32 Br2 Si



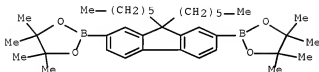
RN 852139-00-5 HCAPLUS  
 CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl-, polymer with  
 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-  
 dioxaborolane] (CA INDEX NAME)  
 CM 1  
 CRN 852138-90-0  
 CMF C24 H32 Br2 Si



CM 2

CRN 254755-24-3

CMF C37 H56 B2 O4

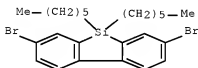


IT 852138-90-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(monomer; blue light emitting poly(2,7-dibenzosilole))

RN 852138-90-0 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-9,9-dihexyl- (CA INDEX NAME)



OS.CITING REF COUNT: 110 THERE ARE 110 CAPLUS RECORDS THAT CITE THIS RECORD (113 CITINGS)  
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 28 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2004:203785 HCAPLUS Full-text

DOCUMENT NUMBER: 140:254983

TITLE: Spirobifluorene dyes and organic electroluminescent devices using them

INVENTOR(S): Suzuki, Koichi; Hiraoka, Mizuho; Senoo, Akihiro; Yamada, Naoki; Negishi, Chika; Saito, Akihito

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan

SOURCE: PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020373	A1	20040311	WO 2003-JP10258	20030812
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2004083483	A	20040318	JP 2002-246601	20020827
JP 3848224	B2	20061122		
AU 2003253441	A1	20040319	AU 2003-253441	20030812
US 20060134425	A1	20060622	US 2005-525327	20050222
US 7510781	B2	20090331		

PRIORITY APPLN. INFO.: JP 2002-246601 A 20020827  
WO 2003-JP10258 W 20030812

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 140:254983

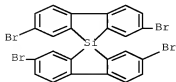
AB Provided are novel spirobifluorenes (I; A1, A2 = optionally substituted polycyclic aromatic of heterocyclic group; R1-R4 = H, organic group, substituted amino, CN, halogen). Organic electroluminescence devices using the spiro compound have an optical output with an extremely high efficiency and a high luminance, and an extremely high durability. In an example, 2,2',7,7'-tetrabromo-9,9'-spirobifluorene was treated with 9,9-dimethylfluorene-2-boronic acid in the presence of Pd(PPh3)4 to give a spirobifluorene compound containing 4 dimethylfluorene groups.

IT 178941-82-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PPEP  
{Preparation}; RACT (Reactant or reagent)  
(intermediate; production of spirobifluorene dyes and organic electroluminescent devices using them)

IT 178941-82-7P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
{Preparation}; RACT (Reactant or reagent)  
(intermediate; production of spirobifluorene dyes and organic electroluminescent devices using them)

RN 178941-82-7 HCAPLUS

CN 9,9'-Spiro[9H-9-silafluorene], 3,3',7,7'-tetrabromo- (9CI) (CA INDEX NAME)



(11 CITINGS)  
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 29 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 2004:41544 HCAPLUS Full-text  
 DOCUMENT NUMBER: 140:95241  
 TITLE: Polymer thin film and polymer thin film device using same  
 INVENTOR(S): Ueda, Masato; Sekine, Chizu  
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan  
 SOURCE: PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004005379	A1	20040115	WO 2003-JP8637	20030708
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2004043544	A	20040212	JP 2002-199750	20020709
JP 4144271	B2	20080903		
AU 2003281363	A1	20040123	AU 2003-281363	20030708
US 7452961	B2	20081118	US 2005-520612	20050110
US 20080265246	A1	20081030	US 2008-139806	20080616
PRIORITY APPLN. INFO.:			JP 2002-199750	A 20020709
			WO 2003-JP8637	W 20030708
			US 2005-520612	A3 20050110

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The present invention relates to a polymer thin film with thickness 1-100  $\mu$ m containing a polymer with liquid crystallinity, number average mol. weight 103-108 (polystyrene-based), and electron mobility or hole mobility  $\geq 10^{-5}$  cm<sup>2</sup>/Vs. Such a polymer thin film can be utilized for various polymer thin film devices such as an organic transistor, organic solar cell, optical sensor, electrophotog. photosensitive body, spatial modulation element, and photorefractive device. Thus, Baytron P-VP-AI 4083 was applied on an ITO-coated glass substrate, an alkyloxy substituted polydibenzothiophene with Mn 9.0 + 104 and Mw 2.0 + 105 (preparation given) was applied thereon, lithium fluoride, calcium, and aluminum were deposited thereon in this order to give a thin film device showing solar cell characteristic.

IT 540536-14-9P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PFEF (Preparation); RACT (Reactant or reagent)  
 (monomer; preparation of polymer thin films for polymer thin film devices)

IT 644986-75-4P  
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of polymer thin films for polymer thin film devices)



IT 540536-14-9P

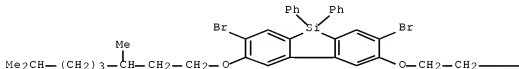
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
{Preparation}; RACT (Reactant or reagent)

(monomer; preparation of polymer thin films for polymer thin film devices)

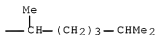
RN 540536-14-9 HCAPLUS

CN 9H-9-Silafluorene, 2,8-dibromo-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-  
diphenyl- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 644986-75-4P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
{Preparation}; USES (Uses)

(preparation of polymer thin films for polymer thin film devices)

RN 644986-75-4 HCAPLUS

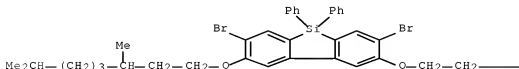
CN 9H-9-Silafluorene, 2,8-dibromo-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-  
diphenyl-, homopolymer (9CI) (CA INDEX NAME)

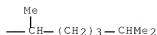
CM 1

CRN 540536-14-9

CMF C44 H56 Br2 O2 Si

PAGE 1-A





OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)  
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 30 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 2003:559860 HCAPLUS Full-text  
DOCUMENT NUMBER: 139:124832  
TITLE: Functionalized 9-metalated fluorene derivatives for  
organic electroluminescent materials and their  
preparation  
INVENTOR(S): Yamaguchi, Shigehiro; Tamao, Kohei  
PATENT ASSIGNEE(S): Kansai Technology Licensing Organization Co., Ltd.,  
Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003206289	A	20030722	JP 2002-51	20020104
JP 3817632	B2	20060906		

PRIORITY APPLN. INFO.: JP 2002-51 20020104  
OTHER SOURCE(S): MARPAT 139:124832

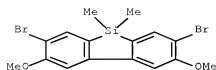
AB The derivs., having lower LUMO than that of fluorene, are I [A = ortho-inductive substituents, e.g., OR, NR2, O(CH2)nOR, NR(CH2)nNR2, etc. (R = C1-12 alkyl; n = 1-3); J = F-excluded halo, metal functional group; E = substituted Si or B], and are synthesized in high yield by these steps; halogenating 4 and 2' position of biphenyl derivs. II (A = the same as above), lithiating 2 and 2' position, and reacting with R1R2SiXY or R1BXY (R1, R2 = C1-12 alkyl, aryl; X, Y = halo, alkoxy). The I may be prepared from II (A, E = the same as above) by lithiation at 2 and 7 position followed by reaction with electrophilic halogenating/metalating agents. Electroluminescent materials represented by III [A, E = the same as above; R3 = aryl(vinyl), arylolethynyl, heteroaryl(vinyl), heteroarylolethynyl] are further claimed.

IT 565225-98-1P 565226-00-8P 565226-02-0P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
{Preparation}; RACT (Reactant or reagent)  
(preparation of dibenzosilole or dibenzoborole derivs. for organic electroluminescent materials having lower LUMO than that of fluorenes)

IT 565225-98-1P 565226-00-8P 565226-02-0P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
{Preparation}; RACT (Reactant or reagent)  
(preparation of dibenzosilole or dibenzoborole derivs. for organic electroluminescent materials having lower LUMO than that of fluorenes)

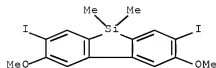
RN 565225-98-1 HCAPLUS

CN 9H-9-Silafluorene, 2,7-dibromo-3,6-dimethoxy-9,9-dimethyl- (CA INDEX NAME)



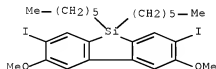
RN 565226-00-8 HCAPLUS

CN 9H-9-Silafluorene, 2,7-diiodo-3,6-dimethoxy-9,9-dimethyl- (9CI) (CA INDEX NAME)



RN 565226-02-0 HCAPLUS

CN 9H-9-Silafluorene, 9,9-dihexyl-2,7-diiodo-3,6-dimethoxy- (CA INDEX NAME)



L6 ANSWER 31 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 2003:450802 HCAPLUS Full-text

DOCUMENT NUMBER: 139:36984

TITLE: Fluorescent polymer, their preparation and polymer light-emitting device

INVENTOR(S): Kobayashi, Satoshi; Noguchi, Takanobu; Tsubata, Yoshiaki; Kitano, Makoto; Doi, Shuji; Ueoka, Takahiro; Nakazono, Akiko

PATENT ASSIGNEE(S): Sumitomo Chemical Company, Limited, Japan

SOURCE: Eur. Pat. Appl., 58 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

EP 1318163	A1	20030611	EP 2002-258395	20021205
EP 1318163	B1	20100127		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
SG 124249	A1	20060830	SG 2002-7169	20021127
JP 2003231741	A	20030819	JP 2002-347573	20021129
JP 4192578	B2	20081210		
TW 268941	B	20061221	TW 2002-134721	20021129
US 20030168656	A1	20030911	US 2002-309101	20021204
EP 2067807	A1	20090610	EP 2009-4354	20021205
R: DE, FR, GB, NL				
EP 2067808	A1	20090610	EP 2009-4355	20021205
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, SI, SK, TR, AL, LT, LV, MK, RO				
US 20050042195	A1	20050224	US 2004-954223	20041001
US 7662478	B2	20100216		
US 20080103278	A1	20080501	US 2007-955788	20071213
JP 2008179821	A	20080807	JP 2008-17653	20080129
JP 2009001804	A	20090108	JP 2008-174340	20080703
KR 2010065249	A	20100616	KR 2010-36721	20100421
PRIORITY APPLN. INFO.:				
			JP 2001-373924	A 20011207
			JP 2002-347573	A3 20021129
			KR 2002-76547	A3 20021204
			US 2002-309101	B1 20021204
			EP 2002-258395	A3 20021205
			US 2004-954223	A1 20041001

# ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A polymer of Mn 103-108 comprises a repeating unit I, where Al = divalent group in which the bond distance ratio (bond distance of C( $\alpha$ )-Al / bond distance of C( $\alpha$ )-C( $\beta$ )) is  $\geq 1.10$ ; R1-6 = H, alkyl, alkyloxy, aryloxy, arylalkyloxy; R2 and R3 or R4 and R5 may be connected to form a ring. The polymer is useful as a light-emitting material, a charge transporting material, etc.

IT 540536-23-0P 540536-24-1P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation and fluorescence)

IT 540536-14-9P 540536-16-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(preparation and polymerization; fluorescent monomer and polymer for

polymer

light-emitting device)

IT 540536-23-0P 540536-24-1P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(preparation and fluorescence)

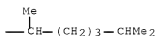
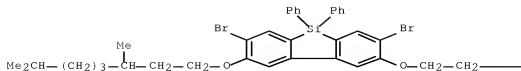
RN 540536-23-0 HCAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 2,7-dibromo-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl-9H-9-silafluorene (9CI) (CA INDEX NAME)

CM 1

CRN 540536-14-9

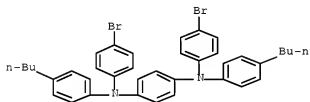
CMF C44 H56 Br2 O2 Si



CM 2

CRN 372200-89-0

CMF C38 H38 Br2 N2



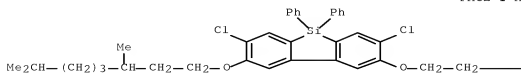
RN 540536-24-1 HCAPLUS

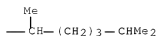
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-,  
polymer with 2,7-dichloro-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl-9H-  
9-silafluorene (9CI) (CA INDEX NAME)

CM 1

CRN 540536-16-1

CMF C44 H56 Cl2 O2 Si

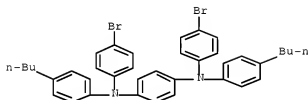




CM 2

CRN 372200-89-0

CMF C38 H38 Br2 N2



IT 540536-14-9P 540536-16-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

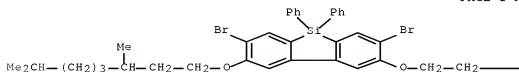
(Preparation); RACT (Reactant or reagent)

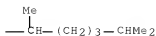
(preparation and polymerization; fluorescent monomer and polymer for polymer

light-emitting device)

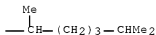
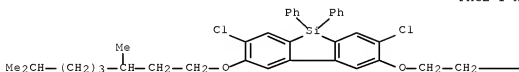
RN 540536-14-9 HCAPLUS

CN 9H-9-Silafluorene, 2,8-dibromo-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl- (CA INDEX NAME)





RN 540536-16-1 HCAPLUS  
 CN 9H-9-Silafluorene, 2,8-dichloro-3,6-bis[(3,7-dimethyloctyl)oxy]-9,9-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)  
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 32 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 1998:490675 HCAPLUS Full-text  
 DOCUMENT NUMBER: 129:149360  
 ORIGINAL REFERENCE NO.: 129:30447a,30450a  
 TITLE: Olefin polymerization and process therefor  
 INVENTOR(S): Van Tol, Maurits Frederik Hendrik  
 PATENT ASSIGNEE(S): DSM N.V., Neth.; Van Tol, Maurits Frederik Hendrik  
 SOURCE: PCT Int. Appl., 21 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9830603	A1	19980716	WO 1997-NL696	19971215
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, ID, IL, IS,				

JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO,  
 SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ,  
 MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,  
 FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,  
 GA, GN, ML, MR, NE, SN, TD, TG

NL 1004991	C2	19980715	NL 1997-1004991	19970114
CA 2277886	A1	19980716	CA 1997-2277886	19971215
AU 9853475	A	19980803	AU 1998-53475	19971215
EP 954540	A1	19991110	EP 1997-950491	19971215
EP 954540	B1	20040728		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE, PT, FI				
CN 1248979	A	20000329	CN 1997-182023	19971215
JP 2002514247	T	20020514	JP 1998-530771	19971215
AT 272078	T	20040815	AT 1997-950491	19971215
ES 2226005	T3	20050316	ES 1997-950491	19971215
US 6218487	B1	20010417	US 1999-352842	19990713

PRIORITY APPLN. INFO.: NL 1997-1004991 A 19970114  
 US 1997-38160P P 19970213  
 WO 1997-NL696 W 19971215

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 129:149360

AB Olefins are polymerized by contact with a transition metal catalyst, wherein the cocatalyst is either XR4 (X = Si, Ge, Sn, Pb; R = H, alkyl, aryl, arylalkyl, alkylaryl; at least one R is not H and contains one or more halogen atoms) or is [X'R'5]-Y+ (X' = Si, Ge, Sn, Pb; R' = H, alkyl, aryl, arylalkyl, alkylaryl; at least one R is not hydrogen and contains one or more halogen atoms; Y+ = cation); the cocatalyst replaces aluminosilanes which can be difficult to remove from polyolefin products. Thus, [(C6F5)4SiMe]-[Li(THF)4]+ was prepared and used with bis(cyclopentadienyl)zirconium monohydride monochloride and trioctylaluminum to polymerize ethylene.

IT 210771-81-6P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 {Preparation}; USES (Uses)  
 (cocatalyst; organosilane cocatalysts for polymerization of ethylene)

IT 52910-17-5P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant);  
 PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (cocatalyst; organosilane cocatalysts for polymerization of ethylene)

IT 210771-81-6DP, reaction products with triphenylchloromethane  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 {Preparation}; USES (Uses)  
 (cocatalysts; organosilane cocatalysts for polymerization of ethylene)

IT 210771-81-6P  
 RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP  
 {Preparation}; USES (Uses)  
 (cocatalyst; organosilane cocatalysts for polymerization of ethylene)

RN 210771-81-6 HCAPLUS  
 CN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-,  
 methylbis(3,3',4,4',5,5',6,6'-octafluoro[1,1'-biphenyl]-2,2'-  
 diyl)silicate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 210771-80-5  
 CMF C25 H3 F16 Si  
 CCI CCS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

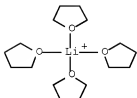


CM 2

CRN 48186-27-2

CMF C16 H32 Li O4

CCI CCS



IT 52910-17-5P

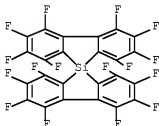
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant);

PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(cocatalyst; organosilane cocatalysts for polymerization of ethylene)

RN 52910-17-5 HCAPLUS

CN 9,9'-Spirobi[9H-9-silafluorene], 1,1',2,2',3,3',4,4',5,5',6,6',7,7',8,8'-hexadecafluoro- (9CI) (CA INDEX NAME)



IT 210771-81-6DP, reaction products with triphenylchloromethane

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP

(Preparation); USES (Uses)

(cocatalysts; organosilane cocatalysts for polymerization of ethylene)

RN 210771-81-6 HCAPLUS

CN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-, methylbis(3,3',4,4',5,5',6,6'-octafluoro[1,1'-biphenyl]-2,2'-diyl)silicate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 210771-80-5

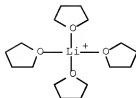
CMF C25 H3 F16 Si

CCI CCS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 48186-27-2  
 CMF C16 H32 Li O4  
 CCI CCS



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)  
 REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 33 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
 ACCESSION NUMBER: 1996:452021 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:87533  
 ORIGINAL REFERENCE NO.: 125:16529a,16532a  
 TITLE: Conjugated polymers with hetero spiro atoms and their  
 use as electroluminescent materials  
 INVENTOR(S): Kreuder, Willi; Lupo, Donald; Salbeck, Josef; Schenk,  
 Hermann; Stehlin, Thomas  
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany  
 SOURCE: Ger. Offen., 18 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4442052	A1	19960530	DE 1994-4442052	19941125
WO 9617036	A1	19960606	WO 1995-EP4594	19951122
W: CN, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 793698	A1	19970910	EP 1995-938459	19951122
EP 793698	B1	20000329		
R: AT, CH, DE, ES, FR, GB, LI, NL, SE				
CN 1166854	A	19971203	CN 1995-196430	19951122
CN 1094964	C	20021127		
JP 10509765	T	19980922	JP 1996-517857	19951122
AT 191232	T	20000415	AT 1995-938459	19951122
ES 2146780	T3	20000816	ES 1995-938459	19951122
US 5741921	A	19980421	US 1997-817376	19970417
PRIORITY APPLN. INFO.:				
			DE 1994-4442052	A 19941125
			WO 1995-EP4594	W 19951122

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A polymer of I having the structure II and similar polymers such as a  
 copolymer of I and biphenyl-4,4'-diboronic acid are suitable for deposition on  
 a substrate to give an electroluminescent film.  
 IT 179026-98-3P 179926-99-4P

RL: IMF (Industrial manufacture); PRP (Properties); PREP  
(Preparation)

(preparation and electroluminescence of films of)

IT 179026-98-3P 179026-99-4P

RL: IMF (Industrial manufacture); PRP (Properties); PREP  
(Preparation)

(preparation and electroluminescence of films of)

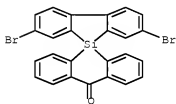
RN 179026-98-3 HCAPLUS

CN Spiro[9-silaanthracene-9(10H),9'-[9H-9]silafluoren]-10-one,  
2',7'-dibromo-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 179026-97-2

CMF C25 H14 Br2 O Si



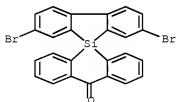
RN 179026-99-4 HCAPLUS

CN Boronic acid, [1,1'-biphenyl]-4,4'-diylbis-, polymer with  
2',7'-dibromospiro[9-silaanthracene-9(10H),9'-[9H-9]silafluoren]-10-one  
(9CI) (CA INDEX NAME)

CM 1

CRN 179026-97-2

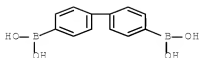
CMF C25 H14 Br2 O Si



CM 2

CRN 4151-80-8

CMF C12 H12 B2 O4



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD  
(4 CITINGS)

L6 ANSWER 34 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 1996:446580 HCAPLUS Full-text

DOCUMENT NUMBER: 125:114858

ORIGINAL REFERENCE NO.: 125:21571a,21574a

TITLE: Preparation of heterospiro compounds of main Group 4 elements as electroluminescence material

INVENTOR(S): Kreuder, Willi; Lupo, Doanld; Salbeck, Josef; Schenk, Hermann; Stehlin, Thomas

PATENT ASSIGNEE(S): Hoechst A.-G., Germany

SOURCE: Ger. Offen., 32 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4442050	A1	19960530	DE 1994-4442050	19941125
WO 9617035	A1	19960606	WO 1995-EP4593	19951122
W: CN, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 793699	A1	19970910	EP 1995-940229	19951122
EP 793699	B1	19981007		
R: AT, CH, DE, ES, FR, GB, IT, LI, NL, SE				
CN 1170425	A	19980114	CN 1995-196941	19951122
CN 1101843	C	20030219		
JP 10509996	T	19980929	JP 1995-518147	19951122
ES 2125056	T3	19990216	ES 1995-940229	19951122
US 6329082	B1	20011211	US 1997-836956	19970522
PRIORITY APPLN. INFO.:			DE 1994-4442050	A 19941125
			WO 1995-EP4593	W 19951122

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): CASREACT 125:114858; MARPAT 125:114858

AB The preparation of title compds. I ( $\Psi$  = Group IV element; K1, K2 = conjugated system), useful as electroluminescence material, is described. Thus, palladium acetate/PPh3 catalyzed reaction of 2,2',7,7'-tetrabromo-9,9'-spiro-9-sila-bifluorene (preparation given) with phenylboronic acid in PhMe/H<sub>2</sub>O containing Na<sub>2</sub>CO<sub>3</sub> gave 76% 2,2',7,7'-tetraphenyl-9,9'-spiro-9-sila-bifluorene.

IT 178941-82-7P 178941-84-9P 178941-90-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

{Preparation}; RACT (Reactant or reagent)

(preparation of heterospiro compds. of main Group 4 elements as electroluminescence material)

IT 178941-82-7P 178941-84-9P 178941-90-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

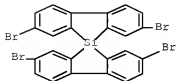
{Preparation}; RACT (Reactant or reagent)

(preparation of heterospiro compds. of main Group 4 elements as

electroluminescence material)

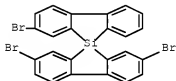
RN 178941-82-7 HCAPLUS

CN 9,9'-Spirobi[9H-9-silafluorene], 3,3',7,7'-tetrabromo- (9CI) (CA INDEX NAME)



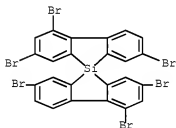
RN 178941-84-9 HCAPLUS

CN 9,9'-Spirobi[9H-9-silafluorene], 3,3',7-tribromo- (9CI) (CA INDEX NAME)



RN 178941-90-7 HCAPLUS

CN 9,9'-Spirobi[9H-9-silafluorene], 1,1',3,3',7,7'-hexabromo- (9CI) (CA INDEX NAME)



OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (17 CITINGS)

L6 ANSWER 35 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN

ACCESSION NUMBER: 1990:440783 HCAPLUS [Full-text](#)

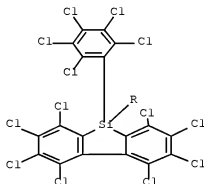
DOCUMENT NUMBER: 113:40783

ORIGINAL REFERENCE NO.: 113:6939a,6942a

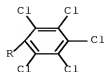
TITLE: An unusual cyclization reaction in the chemistry of perchloroorganic compounds of silicon and germanium. Synthesis and crystal structure of

AUTHOR(S): perchloro(2,2'-biphenylene)diphenylsilane and -germane  
 Fajari, Lluís; Julia, Luis; Riera, Juan; Molins,  
 Elies; Miravittles, Carlos  
 CORPORATE SOURCE: Dep. Mater. Org. Halogenados, Cent. Invest.  
 Desarrollo, Barcelona, 08034, Spain  
 SOURCE: Journal of Organometallic Chemistry (1990), 381(3),  
 321-32  
 CODEN: JORCAI; ISSN: 0022-328X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 113:40783  
 AB The reactions of SiCl<sub>4</sub> and GeCl<sub>4</sub> (or PhCl)<sub>3</sub>SiCl and (PhCl)<sub>3</sub>GeCl where PhCl  
 denotes C<sub>15</sub>H<sub>9</sub> with PhClMgCl gave perchloro(2,2'- biphenylene)diphenylsilane  
 and -germane (I), resp. The structure of both strained compds. have been  
 determined by x-ray crystallog. of their benzene solvates. The  
 photobromination of germane I with Br results in cleavage of one Ger-  
 biphenylene bond to give the highly crowded bromo[2-(2'-  
 bromooctachlorobiphenyl)]bis(pentachlorophenyl)germane.  
 IT 128083-20-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and structure of)  
 IT 128083-20-5P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and structure of)  
 RN 128083-20-5 HCAPLUS  
 CN 9H-9-Silafluorene, 1,2,3,4,5,6,7,8-octachloro-9,9-bis(pentachlorophenyl)-  
 (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD  
(8 CITINGS)

L6 ANSWER 36 OF 36 HCAPLUS COPYRIGHT 2011 ACS on STN  
ACCESSION NUMBER: 1968:22037 HCAPLUS Full-text  
DOCUMENT NUMBER: 68:22037  
ORIGINAL REFERENCE NO.: 68:4255a,4258a  
TITLE: Perfluorophenyl derivatives of the elements. XII.  
2,2'-Disubstituted octafluorobiphenyls  
AUTHOR(S): Cohen, Stuart C.; Massey, Alan G.  
CORPORATE SOURCE: Queen Mary Coll., London, UK  
SOURCE: Journal of Organometallic Chemistry (1967), 10(3),  
471-81  
CODEN: JORCAI; ISSN: 0022-328X  
DOCUMENT TYPE: Journal  
LANGUAGE: English

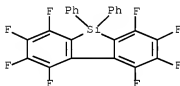
AB The preparation and reaction of several 2,2'-disubstituted octafluorobiphenyls and similar stable heterocyclic organometallic derivs. of Group IV elements are described. The reaction of di- $\pi$ -cyclopentadienylyltitanium dichloride with 2,2'-dilithiooctafluorobiphenyl gave the heterocyclic derivative (Cl<sub>2</sub>F<sub>8</sub>)Ti( $\pi$ -C<sub>5</sub>H<sub>5</sub>)<sub>2</sub>, with high thermal stability. Some evidence is given for the organometallic Ti intermediate postulated in the coupling reaction for the syntheses of polyfluorobiphenyls.

IT 17651-11-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

IT 17951-11-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 17051-11-5 HCAPLUS

CN 9H-9-Silafluorene, 1,2,3,4,5,6,7,8-octafluoro-9,9-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS  
RECORD (13 CITINGS)

=> file stnguide

=> LOG Y